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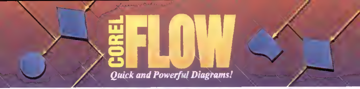

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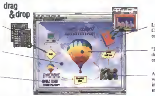

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Why Subscribe?

I really enjoy reading this publication, I find it to be very informative and objective. I would however, like to ask about the subscription option. Is there a difference between the one anyone can pick up free at most convenience stores and the one where you ask them to send in $24.95 for it? Does it have less advertising in it? If it doesn't, I don't see any reason to send in money when I could pick it up free. If there is a difference, I wish you would point it out in the advertising for the subscription.

Jeffrey N. Kirkpatrick, via Internet

GB replies. *The main reason why people subscribe is to guarantee that they don't miss it. Sometimes people subscribe because they are in out-of-the-way locations, where it is not possible to pop on down to the local store to nab a copy. For others it is a way of ensuring that they don't miss a copy — you don't have to go out searching for it, which frequently gets tougher as the month wears on. But there are no content differences between the free copies and the subscription ones.*

However, there are differences among the various editions that we produce for each region, so another reason to subscribe is to receive an edition that isn't normally available where you live. The Ontario Edition has (approximately) 120 pages, the BC Edition has about 110 pages, Alberta has 80 pages, Eastern Edition has 60 pages and Prairie Edition has 40 pages. Content varies and may include some stories specific to the region. Also the advertisements — apart from national ads — vary from edition to edition.

Pining for Clarification

Graeme Bennett states in his article (TCP March 94) that OS/2 does not run on the Pine Pentium 60 he reviewed. I have OS/2 Warp 3.0 (and previously OS/2 for Windows 2.1) running on my Pine P60 with no problem. Also, one of my co-workers who had never used OS/2 before had no trouble. Graeme should explain why OS/2 wouldn't install. If he is looking for video drivers for the Avance Logic video card, they are on the local IBM BBS at 664-6464, but OS/2 will install by default in VGA mode if it can't detect what kind of video card is installed. If he had a problem with the CD-ROM, did he try installing from diskette? CD-ROM support can be installed later for the 93 CD-ROM drives listed in the selective install (I counted!) if for some reason OS/2 doesn't automatically detect it during installation.

As far as the fan dropping off the Pentium chip, both the motherboard and Pentium chip are from Intel — I don't think that is a Pine Technologies defect. (My Re-Pentium chip I received from Intel to replace the flawed Pentium in the unit had the fan already attached to it.) I also feel that Graeme should avoid sweeping generalizations such as "we've heard that OS/2 has difficulty with a fair number of 60 MHz Pentium/PCI local bus machines." We have a whole office full of Pentium P60 PCI bus machines running OS/2!

John Hutton, via CompuServe/Internet

GB replies. *In response to our article in the March, 1995 issue, Pine Technology Canada says that the problem we mentioned with mouse and video drivers not being configured has been addressed, and currently shipping units come properly configured. The company also says that the clamps that had caused the fan to fall off our review unit have been improved. Pine says it is looking into the Warp compatibility issue we mentioned. We'll let you know of any solutions that are discovered.*

As you correctly point out, not all Pine PCs are incompatible with Warp. We've seen units with a double-speed CD ROM drive and Sound card CD interface seem to work without problems. Our troublesome test unit had a quad speed drive and PCI EIDE controller. On the leading edge...

Ottawa reader Pierre Montigny called to report some very interesting discoveries that he made with his Pine Pentium PC. He says he compared a PCI/EIDE controller to a standard ISA disk controller. Scandisk times on the ISA card were on the order of 20 minutes. The PCI improved this to 15 minutes, but the big breakthrough came after installing the PCI drivers (supplied with the Pine). These drivers include various algorithms for optimizing the performance of various disk drives. Pierre says that, after figuring out the optimal seek algorithm for his disk drive, the time plummeted to 5 minutes.

He also tested different video cards. He tried an ISA video card, and a Cirrus Logic PCI card, which he characterized as "troublesome," before installing the Avance Logic card (shipped with many Pine PCs). The ISA card plodded along at about 2400 K per second throughput, the Cirrus Logic card boosted throughput to 13 000 Kps, but the Avance Logic card zoomed along at 20 000Kps. Warp drivers for the Avance Logic card are now available on IBM's BBS at 604-664-6464.

Cool OS/2 Trick

I enjoy reading the paper, great work!

In your article reviewing different operating systems you mention that if you turn on WinOS2's Windows Fast Load, the Windows

➤

Mailbox

screensavers kick in. The documentation and online help for OS2 is pitiful... can you tell me how you turned on Windows Fast Load? Many thanks if you can.

Ronald Weiss, Ottawa

GB answers *Yes, I thought it was a rather good trick myself. Here's how you do it.*

1) In the OS/2 System folder there's an icon for System Setup. Open it.

2) Locate the icon labeled Win-OS/2 Setup. Open that too.

3) Click the checkbox that says Fast load.

4) Now open a Win-OS/2 session and open the Windows Control Panel (usually in the "Main" group). Then choose the icon named Desktop and inside there, you'll be able to choose the screen saver of your choice. Presumably third party screen savers like After Dark or our favorite, "3DPC," would work too.

5) Cool! That's it.

Thanks for reading.

Porno Poll: The Nays have it

In the April Letter From The Editor, we asked readers if we should begin accepting ads for "adult" software and CD-ROMs. The rough tabulation of all the e-mail, faxes and letters we received show that the no's were more vocal by a 2:1 margin. Here are some excerpts.

No. I'm impressed that you are foregoing possible revenue by taking a moral stance. Congratulations!

Orest Soltykewych, Edmonton, via Internet

Yes. Any restraint on the right to freedom of expression must be taken seriously; most especially when this restraint amounts to an out-right ban. Obscenity (and related issues, such as exposing minors to "adult" material) are quite rightly matters under the exclusive jurisdiction of the Canadian Criminal Code.

Pete McCormick, Don Mills, ON

No: Please keep *The Computer Paper* clean from any "Adult Software" ads. I don't think this is an issue on censorship. You must maintain a professional environment for your corporate advertisers (as stated in your editorial). The adult software advertisers have other places to advertise their products.

Simon LiNo, New Westminster, BC

Yes: *The Computer Paper* should allow Adult software ads. However, the ads should be such as not to offend or disturb any younger readers who happen to pickup the paper i.e. there should be no accompanying pictures or graphic descriptions. By all means quote titles and prices or provide mailing addresses or advertise catalogues for further details.

Rod Woolley, via Internet

No: I am an American citizen living in Vienna, Austria and visiting Toronto on business.

In Vienna we live with explicit material "in-your-face" on every news stand, within the pages of the daily news, in advertising on TV and junk mail stuffed in private mail boxes and under doors. I am gratified that in Canada, there is at least one publication that is willing to take a stand against material that is tasteless and I think not appropriate for publication.

Jon Fager, via CompuServe/Internet

Yes. I am in full support of *The Computer Paper* to allow "Adult Software" ads. Sex does not offend me in any way. Sex is normal.

Brian Aguiar, via CompuServe/Internet

No: Sex is good, it is a gift from God. We have distorted it and worshiped it and made it more important that life itself, and that is not good.

Herb Reesor, Vancouver

No. I'm not a prude, but it's refreshing to come across a publication such as *The Computer Paper* where certain standards are met, no matter how much extra money could come in by running some less desirable ads, and no matter how tastefully done they are.

Warren Chow, via Internet

No. Research and facts have proven pornography has no redeeming qualities. It contributes to the social, moral and physical destruction of people and communities.

D Smith, Canadians for Decency, Willowdale, ON

Yes. If you were thinking of "protecting" your readers from exposure to certain information, I appreciate your intention, which is quite noble. However, what makes you think you are so powerful that you qualify to protect others? Does than not insult your readers' intelligence instead?

Eddie Siang, Maple Ridge, BC

No. Adult software seems at its best juvenile, but mostly like all pornography a degrading and unrealistic portrayal of women and sexual relations.

Jyri Makela, Brampton, ON

No. My young boys and several of their friends eagerly study your paper for all the information, reviews, advertisements, comments and comparisons it makes. I would hate to see these and many other kids turn out to be perverts or get a pervert's perspective from your informative paper.

E Bastien, Calgary

When it comes to running your business, nobody knows it better than you. So when you're getting ready to move from DOS to Microsoft® Windows applications, make sure you've got all the information you need to make the right decisions. Just call the new Microsoft Business Source information line. It's the fast and convenient way to look at your options before taking a great leap forward in business computing. You'll get tips on proper planning, information on hardware requirements, and testimonials from other growing businesses who have already moved to Windows. In plain language, you'll hear how Windows applications like Microsoft® Office increase your efficiency by giving you the capability to do more than you could ever imagine doing with your DOS applications. We'll even give you the name of a knowledgeable Microsoft reseller near you.

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So why wait? Take a few moments to get the information you need today, so you can run a more productive and profitable company tomorrow.

Computer TV Shows Take Off

I had a chance to check out a couple of the new shows about computers hitting the Canadian television scene this year.

Dotto on Data

Dotto on Data is in its second season on the West Coast and the Knowledge Network hopes to have it run on TVO in Ontario and other public funded networks in Canada. The host, Steve Dotto, has a great love of puns. The show is shot in a set made up to look like Steve's basement. It is a nitty gritty nuts and bolts approach to computers.

The series I saw was focused on getting onto the Internet and was called Cruisin' the Internet. As my son says "It has a stupid theme song, that sticks in your head." It does attempt to go beyond the basics, get past the glitz and show people how things are actually done. The closest model to this might be a cooking show where the host actually shows you how to make something you can eat. Steve wants to leave you at the end of each show with something new you can do on your computer.

From the Editor

High Tech Culture

The Discovery Channel attempted a unique trial in interactive TV. They gave four producers enough money to produce a one-hour pilot program on computers. Then they showed them on the Discovery Channel and let the e-mail, faxes, mail and telephone response determine the winner.

The winner is a show produced on the West Coast by Omni Productions, the same producers that make the highly acclaimed kids show called The Odyssey. (At least it is highly acclaimed around my house. The Odyssey and Street Sense are the two top picks by my kids.) The name of the new show is **High Tech Culture**.

Aside from the host, who, for my taste, seemed a bit "in your-face" (tight camera angles and a strange actorishness about him), it is very well done. My only concern about this show after talking to the producers is that they hope to make the shows issue-related and avoid tight focus on computer products in order to give the show a long shelf life.

I guess in the world of TV land the goal with shows is to give them as long a life as they can so that they end up with something they can resell in other markets to add back to recouping their original investment in producing the stuff in the first place.

The problem I see with this approach is that even the issues in the world of technology — never mind the products themselves — change too fast for this approach to succeed. If I pull up some of our "issue" related articles and editorials from two years ago, I am frightened by how fast things have changed.

Two years ago, no one was talking about the Internet. My editorial from that time period was about the big growth in content I had witnessed at a Seybold convention in San Francisco. This was prior to the big surge in CD-ROMs and CD-ROM players in home PCs.

I wish them luck in their approach. It should be interesting the first play round at any rate. They start shooting their series this summer, watch for it this fall on the Discovery Channel.

* * *

Adult Software Ads—Yes or No?

Response from the Adult Software question I asked last month was strong. In my last editorial, I asked if people thought we should start accepting Adult Software advertising in *The Computer Paper*. I got even more mail than our managing editor Graeme Bennett did for his Operating Systems Showdown.

Operating systems are very close to religion and no one likes to hear anything negative about his or her favorite belief system. Graeme's article managed to tweak a fair number of sacred icons. The responses to his article may have beat my article out on passion, but I think I won on volume of response.

The Responses

About 70 percent of the respondents were in favor of keeping up our current policy of no Adult Software ads, while 30 percent were in favor of us running them. Many of the pro Adult Software responses suggested keeping the ads limited to no graphics and with guidelines for appropriate text. A few respondents who were against any type of pornography being used went out of their way to warn us that if we did start running the ads, they would stop picking up the paper and they would boycott our advertisers. Always a refreshing thought that people are willing to make sacrifices to get their way.

A few respondents ... went out of their way to warn us that if we did start running the ads, they would stop picking up the paper.

Respondents from both side of the debate said they appreciated being asked what they thought. E-mail responses were far and away the most popular form of response, followed by fax — way down the list was mail. Because e-mail comes with a specific address, we were able to determine that most people only tried to vote once and we eliminated those with two or more postings. Most often it seemed like a mistake rather than an attempt to pump the results of the survey.

We will keep our existing policy of no Adult Software ads. Thanks to all who took the time to participate in the voting.

Enjoy the issue.

Douglas Alder
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THE NEXT, NEXT GENERATION • Hilton Hotels is said to be working on a Las Vegas Star Trek theme park The attraction will reportedly be called "Star Trek – The Experience" and allow each visitor to have an interactive experience by assuming the role of a Starfleet or alien crew member and becoming immersed in an alien environment Expected to draw more than 1.25 million visitors annually the admission price for the attraction will be under $10

And speaking of Captain Kirk..

In addition to continuing work on TekWar William Shatner recently did a radio spot for Mackenzie one of Canada's largest mutual fund companies Shatner has also taken control of a new Toronto based computer animation firm called CORE Digital Pictures of which he is now Chief Executive Officer CORE deals with the use of computer software to create special effects for films and TV programs He will likely continue to use CORE previously involved in the films "Johnny Mnemonic "Darkman II " and the upcoming revival of Outer Limits for the effects in TekWar Shatner says he will contribute creative input to the company and in return will help publicize CORE and drum up business " — GB

Shatner seen here with (l to r) CORE vice presidents Kyle Menzies Derek Grime and John Manella and president Bob Munroe (seated)

THE EDGE GOES ON LINE • Local alternative Toronto radio station CFNY "The Edge" have long been one of the more "Net aware" commercial radio stations. They have e-mail addresses for several of their shows and invite their listeners to send in music requests and comments to them on-line CFNY 102.1 focuses on all aspects of lifestyle music and culture

CFNY have taken the next step and now have their own Home Page on the World Wide Web via Internet service provider Passport Online Their Home Page contains pictures of alternative music artists that have appeared at station sponsored venues or interviews descriptions of their shows e mail addresses and a list of the Thursday Thirty a countdown of the top-requested new music — K.S-R.

Contact: CFNY's Home Page http://www.passport.ca/edge/welcome.html

POWER MAC ONE YEAR OLD • Apple has just celebrated the first anniversary of the Power Macintosh line of desktop systems Success of the Power Mac line has made Apple the largest manufacturer of RISC based computers by shipping more systems than all manufacturers of RISC-based computers combined. This past December Apple shipped its one-millionth Power Mac three months prior to the company's one year goal.

More than 500 native applications have been developed for the Power Mac since its inception running two to six times faster than applications running on Motorola 68040 and Intel 80486-based machines A recent study by Ingram Laboratories revealed that Power Mac systems running native applications outperformed Windows machines powered by equivalent clock speed Pentium processors by an average of 38 percent —RC

UQAM MAKES AN ON LINE PITCH FOR MONEY • The University of Quebec in Montreal recently announced their "Power of Innovation" Capital Campaign in an effort to raise money to fund five major development projects that cannot be carried out through the University's regular budget. What makes

Continued on page 11

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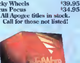

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- 101 Key Keyboard

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what's new

Continued from page 9

this stand out from other University fund-raising drives is the extent to which they focus on acquiring communications technologies and launched their campaign with a multimedia demonstration hosted by Charles Sirois Chairman and Chief Executive Officer of Teleglobe Inc

The goal of the campaign is to raise over $20 million over the next five years to support a scholarship fund research projects, library resources, a biological sciences pavilion and increased access to information technologies

At the multimedia launch there was a video-conference hosted by Linda Giguere, a UQAM graduate working with the Canadian Broadcasting Corporation in Paris who stressed the importance of adequate funding in support of studies abroad a look at the virtual library project, and an exploration into the educational possibilities of the World Wide Web.

After six months of active solicitation within the University community and of

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What's New

Continued from page 11

major corporations, over $10 million has been raised to date, more than half of the stated objective. For those interested in donating further funds or are interested in the projects being funded they also have a Home Page on the World Wide Web —K S-R

Contact The Foundation de l'UQAM WWW site http://www.uqam ca/foundation/index.html

FILEMAKER PRO SERVER 2.1 • Claris Canada has started shipping FileMaker Pro Server 2.1 for the Power Mac and 68000 Macs. FileMaker Pro server hosts database files for both FileMaker Pro Mac and Windows guests simultaneously over an Apple Talk or IPX network. Network intensive tasks, previously handled on a FileMaker Pro network, such as indexing are offloaded to the FileMaker Pro Server reducing network traffic Currently, Claris is developing a new version of FileMaker Pro that will offer relational database capabilities to users for the first time FileMaker Pro Server 2.1 is available through Claris resellers for around $1899 Registered users of FileMaker Pro Server 2.0 can upgrade to 2.1 by calling Claris Customer Assistance at 1-800-361-6075 —RC

CLARIS ACQUIRES LICENSING RIGHTS FOR E MAIL MANAGER • Claris Corporation has acquired the licensing rights for a newly developed electronic mail management application code named Emailer Developed by Fog City Software Inc, Emailer is the first Macintosh application to provide automatic e-mail support for individual subscribers of the Internet and more than one online service According to Guy Kawasaki, president of Fog City Software Inc "We developed Emailer for anyone with an e mail address who wants to tap into the full potential of electronic messaging and communicate with subscribers from a variety of online services effortlessly" Emailer creates and maintains a database of e-mail addresses for all recipients, and can store more than one e-mail address for individuals as well as group addresses for multiple recipients Files can also be also be sent as "enclosures" using drag and drop "Enclosures" are automatically compressed and decompressed and can be sent from one online service to another Emailer is scheduled to be available this summer —RC

Contact Claris Canada at 416-941-9611

IBM OFFERS INTERNET TIME FOR WARP USERS • Computer users who purchase OS/2 Warp and use it to sign up for IBM s Internet access until April 30 will receive a month on the Internet at no cost For a limited time, IBM is offering customers its Getting Started Internet base service of three hours within a 30 day period This is in addition to a no charge trial period, also consisting of three hours within a 30 day period.

In March IBM reduced the charges to its service to $25 registration fee and $9 95 per month to the basic service. —DT

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PVT 486DX/2-66 Cyrix	$1714	$1815	$1875	$2108	$2208
PVT 486DX/2-66	$1802	$1903	$1964	$2210	$2451
PVT/M 486DX/2-66		$2245	$2306	$2534	$2724
PVT/M 486DX/4-100 AMD		$2294	$2366	$2583	$2773
PVT/M 486DX/4-100		$2365	$2418	$2644	$2834
PVT/M Notebooks with Pentium CPU (8mb RAM, dual scan)					
Hard Drive			340 mb	520 mb	720 mb
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PVT/M iDX-75 (8 mb, dual scan)			$4250	$4478	$4669
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Extra NiCad battery for PVT notebook	$142
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PVT/M Docking Station	$725

Notebook Features	PVT/Multimedia	AM-LITE	PENTIUM
Intel CPU Type & Landmark Speed (Genuine CPU-upgradable Intel not Cyrix)	SX-33 110 MHz DX-33 110 MHz DX/2-66 220 MHz DX/4-75 300 MHz DX4/ 100 330 MHz	SX 33 110 MHz DX 33 110 MHz DX/2-66 220 MHz DX/4 75 300 MHz DX4/ 100 330 MHz	P-66 384 MHz P-75 400 MHz P-90 >400 MHz P 100 420 MHz
Unique CPU Upgradability	from SX-33 to DX4/100	from SX 33 to DX4/100	from DX-66 to DX-100
Base/Max RAM	4/36 mb	4/20 mb	8/48 mb
Local Bus Video RAM	1 mb	1 mb	1 mb
Max HDD Capacity	720 mb	720 mb	720 mb
Internal Floppy	1.44 hi density	1.44 removable	1.44 hi density
Screen Size	9.5"	11.3"	10.5"
Max Ext Resolution	1024x768 256clrs	1024x768 256clrs	1024x768 256clrs
Int. Screen Resolution	640 x 480	640 x 480	640 x 480
Ext. SVGA Monitor	Simultaneous	Simultaneous	Simultaneous
1 serial & 1 parallel, ext video, 2 PCMCIA slots	Y	high speed parallel high speed serial	Y
Battery Type	NiMH	NiMH	NiMH
Large Built-in Trackball	19 mm	integrated trackpoint	25 mm
Docking Chassis	Y	Y	Y
Removable HDD	standard	standard	standard
VESA Local Bus HDD	Y	Y	Y
Built in sound chip	8-bit mono	16-bit stereo	16-bit stereo
Dimensions (inches)	11.5 x 8 x 2	11.7 x 9.8 x 1.66	11.3 x 8 x 2.4
Weight (incl. battery)	6.2 lbs	8.8 lbs	7.8 lbs
Battery Life 2 - 4 hrs	Y	up to 8 hours with 2nd battery pack	Y
SVGA PCMCIA Drivers	included	included	included
Carry Case, AC adapter	included	included	included

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AM486DX/4-100	$3642	$3870	$4061

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ATI Mach64 2 mb DRAM PCI	$182
ATI Mach64 2 mb VRAM PCI	$292

Upgrade	Add
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- 2 serial, 1 parallel, 1 game port
- Deluxe 101-key spillproof keyboard & 3-button 400 dpi mouse

Model (Intel CPU unless noted)		Lease to OWN	Landmark
486DX/2-66, VLB (Cyrix™)	$1171	$47/mth	220 MHz
486DX/2-66, VLB	$1228	$49/mth	220 MHz
486 DX/2-80 VLB (AMD™)	$1218	$49/mth	267 MHz
486DX/4-100 VLB (AMD™)	$1322	$53/mth	347 MHz
486DX/4 100, VLB	$1421	$57/mth	347 MHz
iDX-66 w/Pentium~ CPU, PCI	$1597	$64/mth	382 MHz
iDX 75 w/Pentium~ CPU, PCI	$1662	$66/mth	400 MHz
iDX 90 w/Pentium~ CPU, PCI	$1987	$80/mth	480 MHz
iDX 100 w/Pentium~ CPU PCI	$2256	$90/mth	533 MHz

Upgrade 486 VLB with 128k cache to PCI with 256k cache	$95
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486 MULTIMEDIA VLB PACKAGE
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True 16-bit sound card
2 speakers and 2 CD titles

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With Above Features Plus
Double Speed CD ROM
True 16 bit sound card
2 speakers and 2 CD titles
15" non interlaced .28 dp UVGA monitor

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Pentium iDX 75	$2216	$89/mth
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Pentium iDX 100	$2820	$113/mth

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16 mb fast onboard RAM
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17" NI .28 dp UVGA mtr 1 mb PCI video
Enhanced minitower case w/230 watt power
Double Speed CD-ROM
True 16-bit sound card
2 speakers and 2 CD titles

Pentium iDX-66	$3094	$124/mth
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Pentium iDX-90	$3484	$139/mth
Pentium iDX-100	$3753	$150/mth

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what's **new**

HARD DRIVERS FROM KOSS • The Koss Corp has a long history in the manufacture of hi fi speakers and their offerings in the computer market just took a turn for the better They have introduced the Hard Drivers line of magnetically shielded speakers for the home My test pair was the HD/100 a clean looking design with a 4" driver and a 1 5" tweeter that produces a neutral sound. The nice part about the HD/100 s is the fact that all controls are on the front of the right speaker along with the microphone and headphone jack. Those last two eliminate having to reach behind the computer every time you need to plug things in. The annoying thing is that the on/off switch is behind the speaker necessitating groping to turning it on and off There is a boost switch for the bass and treble but the difference is not very audible An input selector is handy for all those who possess external CD-ROM s Delivering a full 5 watts per channel these beauties pack quite a punch (I ve never had them past the first quarter on the dial) Those F-16 s sure sound like F-16's now Now I have to deal with complaints that the den sounds like an aircraft carrier. Silly people-that's what it is supposed to sound like —PA

Contact: KOSS 1-414-964-5000

LOUISBOURG CD ROM • Fitzgerald Studios have released a CD-ROM about the Fortress of Louisbourg, a comprehensive multimedia tour of this 18th Century French Fortress in Nova Scotia.

Brought together by Louisbourg author and historian Owen Fitzgerald the CD-ROM is a virtual encyclopedia about the Fortress, which was captured by the English 250 years ago The CD ROM contains over 600 color photographs 40 minutes of video (including rare underwater footage of local shipwrecks), and over 400 pages of text. It contains animations of the two main battles between the French and the English, a 3D model of the whole fortress town as it existed in 1745, and includes narration and music.

The Fortress of Louisbourg CD ROM is available in dual Windows/Macintosh format for $49 95 —K S-R

Contact: 1-800-576-2321
Internet E-mail: owenfitz@fox nstn.ns.ca

HP ANNOUNCES SMALL-OFFICE LASERS • Hewlett Packard has just announced two models of laser printers aimed at the small office market, the HP LaserJet 5P and 5MP printers. These models are 600 DPI six page per minute laser printers based on a Motorola ColdFire 20 MHz RISC processor The HP 5P is optimized for standard Windows document printing, and has a list price of $1 539, while the HP 5MP is designed for Mac and/or graphics software users, and comes with true Adobe PostScript compatibility, for a list price of $1 885

The printers feature a nearly straight paper path through the printer, which allows for many types of media to be printed on Connectivity options include two IEEE 1284-compliant parallel ports one LocalTalk port and an industry-standard IrDA-compliant infrared port. The infrared port allows compatible devices such as the IBM ThinkPad 701c to transmit data to the printer at speeds up to 115Kbps without any physical connection Enhanced font management is provided by the HP FontSmart for Windows utility which is compatible with TrueType Type 1 or bitmap fonts

The printers have intelligent power management and low power consumption, and an instant power save mode that offers instant-on operation with no warm up time needed Paper capacity has been enhanced over that of HP s previous generation of small office printers (the LaserJet 4P and 4MP) the new printers have a total tray capacity of 350 sheets, including 200 sheets on the lower cassette tray and a 100 sheet multi-purpose tray which is designed to accommodate specialty media as well as regular paper The 5P model comes with 2MB of RAM which, in conjunction with sophisticated memory management algorithms allows it to print full page 600 dpi text and graphics The 5MP comes with 3MB of RAM Extra RAM can be added by installing industry standard SIMMs.

The new printers are expected to be shipping in April 1995 —JE

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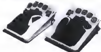

DataHand Keyboard

Different Strokes – Alternative Input Devices

BY GRAEME BENNETT

For a variety of reasons, an increasing number of people are interested in alternatives to the traditional keyboard and mouse. Some users, concerned with the threat of repetitive stress injuries (carpal tunnel syndrome, tendonitis, etc.) are wary of standard QWERTY keyboards; others have special applications, needs or disabilities that make other input devices a desirable alternative to a mouse.

Non-QWERTY Keyboards such as the Dvorak layout have never been particularly popular, but they continue to have a small following. The main advantage of the Dvorak keyboard layout is that the keys are laid out in a more sensible fashion than those on the QWERTY keyboard. The drawback, of course, is that you have to learn a completely different key layout. While such radical alternatives have their merits, this article is primarily concerned with PC and Mac input devices that require little or no relearning: improved keyboard designs and alternatives to the ubiquitous mouse.

Centris 660AV Computer

A few years ago, Apple became the first mainstream computer company to design an ergonomic alternative to the standard keyboard. However, many users consider the function key layout and feel of the Apple keyboard to be less than excellent, and the keyboard is now considered a flop in the marketplace. Most Apple aficionados continue to rate the Extended Keyboard II as the best Mac keyboard.

In Oct. '94, Microsoft released its own ergonomic solution, the $139 Microsoft Ergonomic Keyboard. It is worth noting that non-standard keyboards may have non-standard ways of handling keystrokes, resulting in various incompatibilities. For example, the Microsoft keyboard has a problem handling remote access programs such as pcAnywhere, Carbon Copy and Timbuktu. According to Microsoft, there is at this time no work-around for these incompatibilities.

Microsoft's Natural Keyboard

Apple's ergonomic keyboard, too, had some compatibility problems with system software versions prior to the latest System 7.5.

Since our Oct. '94 review, the second beta release of Windows 95 has amply demonstrated what those extra keys on the Microsoft keyboard are for, though. If you press the "Windows key," the Start menu pops up, with a list of available programs. Pressing the "Shortcut key" pops up a list of options that are normally available by pressing the right mouse button. Interestingly, although there are a few ways of duplicating the Windows key function via the keyboard (Control-Escape or Tab-Enter will both do it), we could find no way to simulate the Shortcut key from the keyboard.

The Ergonomics of Keyboards

Human Factors specialist Leland Knight says the recent proliferation of ergonomic keyboards is obviously an attempt to meet problems associated with typing on a flat keyboard. However, none of the ergonomic keyboards address all three problem areas associated with repetitive motion problems.

Knight, Arizona State University Professor Emeritus in Industrial Design specializing in Human Factors Design, said the new ergonomic keyboards from Apple and Microsoft make only modest gains on the total ergonomic problem.

"There are three criteria of ergonomic design that must be factored into an effective alternative to the standard flat keyboard," he said. "(1) Wrist position. (2) Hand posture; and (3) key location and force.

"It appears that the Microsoft keyboard, like the Apple ergonomic keyboard, attempts to address only one of these issues — the wrist position.

"While many of the new keyboards straighten the wrists in one axis, they invite bending the wrist in another axis by inviting the user to rest the heel of the hand while typing, which can force the hand and fingers up, adding stress to the tendons in the carpal tunnel."

Knight helped design a fairly bizarre-looking reinvention of the keyboard: the DataHand system from Industrial Innovations Inc. (602-860-8584 or 1-800-875-7171). The DataHand system takes a completely different approach to increasing computer keyboard user comfort and reducing repetitive stress associated with flat keyboards. Rather than attempting to modify a standard keyboard, the DataHand system is designed around the human hand. It features two molded hand pods with magnetic switches clustered in three-dimensional wells around each finger. Typing is performed by moving the fingers very slightly in one of five directions — north, south, east, west or straight down.

The unique design of the DataHand system reduces repetitive keystrokes by as much as 80 percent, and the sensitive magnetic switches reduce the work performed by the fingers by more than 80 percent. These two factors, says the company, combine to reduce the repetition and work factors to as little as 1/25 that of a standard keyboard.

The company says that, while the DataHand system's design and appearance are

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Ergologic Keyboard developed by students at the University of British Columbia

radical departures from the traditional keyboard its function is not The touch-typing patterns are very similar to that of a standard keyboard with only four keys to be relearned

Additionally the use of muscles inside the hand reduces the use of tendons which pass through the carpal tunnel by as much as 40 percent The company says the DataHand system also makes it easier to touch-type the number and punctuation keys as well as the function keys and mouse, all without any hand movement

An independent study recently conducted by the Harrington Arthritis Research Center of St Luke's Hospital in Phoenix, Ariz., reported that use of the Data-Hand system resulted in a 64 percent reduction of symptoms resulting from Repetitive Stress Injuries (RSI) and Carpal Tunnel Syndrome (CTS) The only bad news is the hefty US$1 995 price of the DataHand system

Another innovative design was developed by students at the University of British Columbia Their Ergologic keyboard is now available as a commercial product for about $500 and offers a few interesting features For starters it's highly customizable The unit looks like a standard PC XT keyboard (and according to the company is completely compatible with all PC software) with function keys on the left side as opposed to the row along the top of most AT-style keyboards you see these days At the top of the keyboard is an innocuous-looking button that, when pushed, reveals the keyboard's secret Sproing! The keyboard splits in the middle and pops up like a draw-bridge The angle of tilt is adjustable via a knob on the left side of the unit and the wrist pads (which, we must say we found a tad uncomfortable) can move back and forth

Although the unit is not continuously adjustable from flat all the way up to its maximum tilt (the lowest positions cause the keyboard halves to bounce when you press on the keys; this bouncing goes away when you get to the angles the unit is intended to be used at) it will accommodate a wide variety of hand positions to alleviate the uncomfortable angling of the wrists that contributes to CTS and other repetitive strain injuries

The unit comes with an adapter allowing it to be used on any model of PC (XT or later) with either the standard keyboard connector, or the smaller PS/2 variety

As with any ergonomic solution you really have to try it to see how it works for you In B C you can check out the Ergologic keyboard at Doppler (the company also does mail-order sales) The unit is also available from Alberta based Ergonomic Solutions, 1 800-660 ERGO(3746) For other vendors, contact Ergologic at 433-3132 or 1-800-665 9929

Comfort Keyboard

Peter Acly, a spokesman for the Health Care Keyboard Company, feels that the most important feature in an adjustable keyboard is the degree of adjustability "It is absolutely critical " claims Acly "that an ergonomically designed keyboard has independently

Continued on page **19**

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Alternate Input Devices

Continued from page **16**

adjustable sections, and that each section has the ability of rotating and tilting in three dimensions so that each individual can set the sections in their own most comfortable palms inward posture."

Adjustability, says Ady, is critical because no two people are identical.

The Health Care Keyboard Company (414-536-2160) produces the Comfort Keyboard System. This US$795 QWERTY keyboard has three independently adjustable sections: left hand, right hand, and numeric keypad. The sections can be moved apart to conform to each user's shoulder width. A timing device reminds users to take periodic breaks. The left or right spacebar can also be programmed as a backspace, and the unit can be set up with keyboard macros to launch or switch applications or other keyboard functions. Also, the keypad can be positioned on the right or the left to accommodate left-handers or those with special needs.

The unit won the John Hopkins University 1992 national design award and is compatible with IBM, Macintosh, Sun Microsystems and other major computer systems. The system comes with the keyboard interface module and a pair of ergonomically designed armrests.

The unit has a 30-month warranty. The company says it offers substantial discounts to organizations ordering four or more units.

Mac users can attach a PS/2 style keyboard, mouse or other peripheral to most Macintoshes with the help of a device called the Mediator from Cybex Corporation (205-430-4000). Although the Cybex rep wasn't familiar with the Microsoft keyboard, he said that it works with standard PC keyboards. Mediator is also available for Sun workstations.

Mac users no longer have to hunt and peck for input options, thanks to Silicon Valley Bus Co.'s KeyStone, an ADB adapter for Intel-standard PC keyboards and mice.

The $99 adapter lets Mac users connect low-cost extended PC keyboards with 101 to 105 keys, as well as Microsoft Corp.'s new ergonomic Natural Keyboard, which includes several extra keys and an integrated wrist support. The adapter also supports the wide range of PC keyboards and switches designed for users with disabilities.

KeyStone is a 2 by 3 inch box that includes two ADB ports, a PC connector and an input port for a simple foot switch. In addition to keyboards, the adapter supports PC mice with up to three buttons.

The device ships with a control panel that lets users map Mac-specific keys to their PC counterparts. Silicon Valley said the settings are stored in the KeyStone unit and do not require additional host RAM for a driver.

Mac users of multibutton PC mice can assign the usual click functions and Command key equivalents for menu actions. The mouse controls include tracking speed, click speed and flip axes.

Silicon Valley Bus Co. of San Juan Bautista, Calif. can be reached at (408) 623-2300 or (800) 775-0555, fax (408) 623-4440, silibus@aol.com.

While they are neither particularly ergonomic nor recommended, we should mention an issue surrounding some third-party replacement keyboards for the Macintosh. We've seen several, such as the Adesso AEK-105 and the MAK 105 from Ortek (which, as far as we can tell, are identical aside from a rainbow sticker on some models of the MAK 105). Neither of these keyboards resets the computer properly using the Control-Command-Power Key reset sequence. (The Power Key is the key in the upper right corner of Mac Extended Keyboards. It turns on certain models of Macintosh and invokes a Shutdown command in recent versions of System software.)

We recommend that Mac users test the keyboard reset function before purchasing a clone keyboard, or play it safe and spring for a genuine Apple Extended Keyboard.

Despite their learning curves and occasional incompatibilities, we recommend an ergonomic keyboard and pointing device as a good line of defense against repetitive stress injuries. Naturally, work habits and posture play important roles in combating RSI, so we encourage you to read up on the subject and be good to your body. For more information on RSI, see the Jan. 93 and Oct. 94 issues of TCP.

A Different Way to Point

Perhaps fueled by the growing realization that using a mouse is at least as likely to lead to repetitive strain injury as using a keyboard, alternative pointing devices are rapidly growing in popularity. To be sure, the constant press-and-click motion while manipulating a mouse can lead to a condition graphic designers and other heavy mouse users now refer to as "mouse hand." I am of the opinion that mouse related RSI risks exceed those of keyboard related activities. Hence, we have been testing a wide variety of alternative pointing devices. Here is a summary of our findings.

One area that has grown from a niche to almost mainstream proportions is the graphics tablet market. Fueled by the explosive growth in interest in high-end graphics and the tablet support of such market-leading titles as Adobe Photoshop, Fractal Painter and CorelDraw, prices have plummeted on tablets, which now sell for as little as $200 for a pressure sensitive model. *The Computer Paper* has tested several models of graphics tablets, including models from CIC, Kurta, Wacom, and Hitachi.

We'd advise against any of the low-end models that do not support pressure sensitivity. We also have some reservations about tablets with pens that require batteries, which tend to be both bulkier and less convenient. We have even less regard for so-called "corded pens" — connected to the tablet by a wire.

Wacom ArtPad

Although our experiences on Macs and PCs differed widely, our favorite tablets and pens overall are those from Washington-based Wacom Inc. The company regularly uploads drivers to its forum on CompuServe (GO WACOM) and the tablets range from table hogging models suitable for professional users of CAD and high-end worksta

Continued on page **21**

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SONY 2.4X Speed SCSI-2	199
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Plextor Quad Speed SCSI-2 [illegible]	499
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NEC XE17 17"	1499
NEC XP21 21"	2599
Mag [illegible] 14" SVGA	349

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Alternete Input Devices

Continued from page **19**

tions (we picked up a 12 by 12 inch model for about C$850) right down to tiny 4 by 5 mini pads such as the US$199 ArtPad. The Wacom tablets connect to a PC or Mac via a serial port. Mac specific models are also available that connect directly to the Apple Desktop Bus port. We had no problems using a tablet designed for the PC on a Mac simply by downloading the Mac driver from the above-mentioned CompuServe address.

We know several Mac users who own Wacom tablets and almost all are pleased with the product (a recent Power Macintosh-compatible driver update put a smile at last on the face of the main complainer). Because different tablets have different textures on their surfaces we'd recommend trying a few models out at a trade show before deciding. We prefer the slightly textured surface and slanted top of the larger tablets although others might like the mousepad-like dimensions and smoother surface of the 6 by 9 inch or 4 by 5 models. The company had announced that all UD Series graphic tablets including the Wacom ArtZ and ArtPad now provide 256 pressure levels and 2 540 lines of resolution. The company also announced a new line of pressure-sensitive pens that can accept ball point pen cartridges. Contact Wacom at 1-800 922 6613.

Our tests of Wacom tablets on a PC were not as successful. After several system freezes under Windows 3.11 we called the company's tech support department where a technician confirmed incompatibilities with the Drag and drop editing feature of Microsoft Word 6.0 (apparently disabling PenWindows fixes this particular problem although that in turn causes other incompatibilities and completely disables pressure sensitivity in applications such as Adobe Photoshop, CorelDraw and other apps that use PENWIN DLL).

The 5.0 version of CorelDraw supports an alternate tablet driver known as WINTAB, and, just to add additional complexity, Fractal products such as Painter and Dabbler don't use either one. The Wacom technician told us that the newest Wacom ArtPad tablet has a Preferences setting that allows you to turn PenWindows on or off right from the control panel (e.g., clicking this button modifies your System.ini file automatically). On other Wacom models you have to manually edit your System.ini file. Wacom says that future software releases for all tablets will include one button configuration.

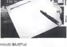
Note for techies: After installing the Wacom ArtPad we discovered an IRQ conflict between the ArtPad and our Sound Blaster 16 ASP. Here's what we found and how to fix it if you have the same difficulty: The ArtPad uses BOTH IRQ 4&5. The SB16 uses IRQ 5. You'll have to manually change the jumper setting on your SB16 to IRQ 10 then use SBCONFIG to reconfigure the SB16. Then reboot.

The company reports that the SD510-C tablet is directly supported under Windows 95 and that the company is committed to making its future products "plug and play" under that operating system.

Until then however compatability problems under Windows 3.11 and numerous other minor snags left us a little less than thrilled with the Wacom driver for Windows.

At this writing, the company had not delivered a native Windows 95 driver but said they would post it to their BBS and CompuServe before Windows 95 was generally available.

Wacom's technical support told us that the existing drivers would work with Windows 95 by removing PENWIN.DLL from the system before installing.



The Hitachi MultiPad

At the spring Comdex/PacRim show in Vancouver, a company called Edipix (604 270 8440) showed a tablet we hadn't seen before. The Hitachi MultiPad is a 6x9 tablet that connects to a Mac or PC's serial port.

Continued on page **23**

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Guide to Ergonomic Furniture & Accessories

The following chart lists a sample of ergonomic products available in Canada. You should be able to find them in computer retail stores, office supply outlets, or businesses that specialize in ergonomics or workplace safety devices.

We've made no attempt to evaluate the relative merits of these products. If you are feeling the ill effects of long bouts at a computer workstation or are concerned about repetitive strain injuries, seek professional guidance.

In compiling this chart, we contacted all the companies we knew of that offer products in Canada — our apologies to anyone we may have missed. — DT

ERGONOMIC ACCESSORIES

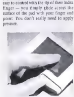
Product	Brand	SRP (Unless otherwise indicated)	Manufacturer/ Supplier	Contact
Chair	Ergonomic Chair (various)	$289.00-$575.00	Fenmco	800-663-6764
Chair	Pallmat (various models), Paramount Low-Back Chair, Ergo Series	$659.95-$1804.00	Ergonomic Solutions	800-680-3748
Chair	Xelerion Altmatic Ergomatic	$701-$1381 US	Gold Industries	418 594-9190
Foot Rest	Foot Rest with Massaging Roller	$44.95-$54.95 US	Ring King	319-263-8144
Foot Rest	FootEase, ComfortTread, ComfortTread Plus	$43.00-$98.50	MicroComputer Accessories	905-475-9487
Foot Rest	Ergo Fit Rest, WorkMed Foot Rest, Portable Relax Foot Rest, WorkSmart 7010 Adjustable Foot Rest	$29.95-$89.95	Ergonomic Solutions	800-680-3748
Foot Rest	MS-29 Heavy Duty Economy Footrest	$38.95	Data Accessories	905-850-8484
Keyboard Control Pedal	Step On It	$120.00 US	Bilim Innovations	800-280-0150
Keyboard Drawer Unit	Continuous Articulating Drawer/Mouse Unit, WorkMed Wrist Saver Articulating Drawers	$249.95-$278.95	Ergonomic Solutions	800-680-3748
Keyboard Drawer/Wrist Rest	ErgoDrawer, Desktop Drawer, Underdesk Drawer, Adjustable Drawer, Articulating Drawer	$79.50-$375.00	MicroComputer Accessories	905-475-9487
Keyboard Keypad/Wrist Rest Pad	Flexpro Keyboard	$489.95	Ergonomic Solutions	800-680-3748
Keyboard Platform	Adjustable/Articulating Keyboard & Mouse Platform	$129.95-$199.00 US	Ring King	319-263-8144
Keyboard Platform/Wrist Rest	Keyboard Platform	$64.00	MicroComputer Accessories	905-475-9487
Keyboard Wrist Rest	Keyboard Pacifier (quantities only)	$3.84-$8.90 US	Computer Expressions	800-443-8276
Keyboard Wrist Rest	Keyboard Wrist Rest	$16.95-$28.95 US	Ring King	319-263-8144
Keyboard Wrist Rest	Ergomasters Wrist Rest, Wrist Trolley, Image Adjustable Wrist Rest	$15.00-$148.90	MicroComputer Accessories	905-475-9487
Keyboard Wrist Rest	TESC, Wristar (various models), WorkMed Wrist Saver (various models), WorkSmart 5000 & 5100 Wrist Rest	$12.95-$81.95	Ergonomic Solutions	800-680-3748
Keyboard Wrist Rest	MS-18 Super Wrist Support	$24.00	Data Accessories	905-850-8484
Keyboard Wrist Rest	MP-17 DAC Wrist Support	$18.95	Data Accessories	905-850-8484
Kbd. Wrist Rest/Kbd. Cover	[illegible]	$25.49	Fellowes	905-475-6320
Keyboard Wrist/Forearm Support	The Computer Keyboard Stress Reliever	$109.95 US	Pro-Team Products	608-314-3754
Keyboard/Mouse Arm	Right Angle Combination Keyboard/Mouse Articulating Arm	$769.95	Ergonomic Solutions Inc.	800-680-3748
Keyboard/Mouse Wrist Rest	Ergo Office Set, other products in the Ergo line	$6.95-$49.95	Ergo Desk Inc.	604-278-8684
Keyboard/Mouse Wrist Rest	Right Angle Combination Wrist Support	$79.00	Ergonomic Solutions	800-680-3748
Keyboard/Mouse Wrist Rest	Standard and Designer Pads, various other products	$8.79-$39.00	Microport	800-363-9832
Keyboard/Mouse Wrist Rest	Gel ...	$12.95-$18.95 US	Case Logic	[illegible]
Monitor Anti-Glare Filter	LiteView Original, PrivateView, Multi Anti-Glare, Optic Anti-Glare, Anti-Static	$35.99-$220.00	Fellowes	905-475-6320
Monitor Anti-Glare Filter	OptiGuard (various models)	$175-388	OCLI	800-548-6554
Monitor Anti-Glare Filter	ValTek Glass, Reach Mesh	$32.00-$517.43	Reach Industries	800-863-4860
Monitor Anti-Glare Filter	VR Series of Anti-Glare Filters, WorkMed Glare Screens	$59.95-$298.00	Ergonomic Solutions	800-680-3748
Monitor Anti-Glare/Privacy Filter	Spectrum Secure-View	$136.00-$190	Kantek (Can. Dist. by Fellowes)	[illegible]
Monitor Anti-Glare Filter	AVT Ultra-Vue, AVT-UC Universal Contour	$29.95-$229.95	Data Accessories	905-850-8484
Monitor Support	Workstation Monitor Ease	$11.00	Fellowes	905-475-6320
Monitor Support	CRT Valet, Full Flex Valet, CRT Riser, EasyView VDT Platform, Monitor Arm, EasyView Adjustable Monitor Arm	$49.00-$289.00	MicroComputer Accessories	905-475-9487
Monitor Support	VDRiser, MonitorMate, Full Flex CRT Valet, WorkMed Neck Saver, Easy View Monitor Stand	$9.95-$329.95	Ergonomic Solutions	800-680-3748
Monitor Visor	Monitor Glare Visor, Notebook Glare Visor	$21.95-$95.95 US	Ring King	319-263-8144
Monitor Visor	VDT Visor	$49.00	Ergonomic Solutions	800-680-3748
Mouse Arm	Right Angle Mouse Articulating Arm	$329.00	Ergonomic Solutions	800-680-3748
Mouse Arm for Chair Arm	Mouse Arm	$42.95 US	Ring King	319-263-8144
Mouse Pad	Image Incline Mouse Pad	$15.00	MicroComputer Accessories	905-475-9487
Mousepad Wrist Rest	Mouse Arena, Mouse Rink	$8.50-$19.00	Fenmco	800-663-6764
Mousepad Wrist Rest	The Combo Pad (quantities only)	$4.60-$7.40 US	Computer Expressions	800-443-8276
Mousepad Wrist Rest	Mouse Platform, Easy Reach	$16.95-$21.00 US	Ring King	319-263-8144
Mousepad Wrist Rest	TESC Mousepad Wrist Support, WorkSmart 5200, WorkMed Mouse Support, WristAir Mouse Pad, MoPad	$9.95-$49.95	Ergonomic Solutions	800-680-3748
Mousepad Wrist Rest	MP-11 Mouse Pad with Wrist Support	$14.95	Data Accessories	905-850-8484
Software	WorkSmart Stretch Software	$60.00	Ergonomic Solutions	800-680-3748
Support, Arm	GelMouse Tray & Padded Arm Rest, WorkMed Arm Support, DataArm Forearm Support	$189.95-$288.95	Ergonomic Solutions Inc.	800-680-3748
Support, Back	Back-Up by Nada-Chair, Butterfly Cushion	$14.95-$44.95	Best Form	[illegible]
Support, Back	Adjustable Back Cushion	$60.95	MicroComputer Accessories	905-475-9487
Support, Back	WorkSmart (various models), WorkMed (various models), North Coast Lumbar Roll, Obus Forme Seat Cushion	$24.95-$89.95	Ergonomic Solutions	800-680-3748
Task Light	EasyView Copy Light	$47.98	MicroComputer Accessories	905-475-9487
Task Light	Geneva Task Light	$319.95	Ergonomic Solutions	800-680-3748
Workstation	Command Center Deluxe, Command Bar, Height Adjustable Compact	$99.00-$1946.00	Fenmco	800-663-6764
Workstation	Ball Ergonomic Workstation	$389.95	Ergonomic Solutions	800-680-3748
Workstation	WorkManager System	priced by component; $407 for 48-inch desk	MicroComputer Accessories	905-475-9487

Chart compiled by Esther Pallotta

More on Ergonomics on Page 85

Variation on the Tablet

An interesting variation on the tablet idea is the Cirque GlidePoint (US$99) a tiny touch-pad that is rapidly growing in popularity. Most users find it extremely easy to control with the tip of their index finger — you simply glide across the surface of the pad with your finger and point. You don't really need to apply pressure.



The touchpad emulates a Microsoft mouse and although it doesn't require additional software to function comes with a disk that provides an enhanced driver that allows various customization options. We installed the enhanced driver successfully under Windows 3.1 and Windows 95.

The GlidePoint is surprisingly accurate and, because there are no moving parts (other than left and right mechanical buttons), it doesn't lead to the problems with dirt and grime that plague mice and trackballs. In fact, you don't have to use the buttons at all. Double clicking can also be accomplished simply by tapping lightly on the surface of the pad. While we have no major complaints with the GlidePoint we found that drag-and-drop operations tended to be somewhat trickier than their mouse equivalents.

There are a few portable PCs with GlidePoint or similar devices built in (Apple's PowerBook 540 is a notable example) and external units are available for the PC and Mac. The GlidePoint was enthusiastically reviewed in the Feb. '95 issue of *The Computer Paper* made the "Best Bets" list in the Nov. '94 issue of *PC World*, and was voted "Best of 1994" in the January 1995 issue of *PC Magazine*.

If you happen to have seen a very similar looking touch pad for PC portables and desktops from Alps (a company well-known for its keyboards mice and external numeric keypads) that's because Alps non exclusively licensed the GlidePoint product from Cirque in Feb., 1994. A Mac version called the MacALLY MTP 01 is also available. In Canada, Alps products are distributed by Adam Peripherals (905-886-2326).

For portable or desktop PC or Mac users who wish to add a touchpad to their machines, there are two main methods of connection a PS/2 mouse port or a serial port connector. ❏

Contact Cirque at 1-800-454-3375 or Alps at 1-800-720-2877 for more info

Alternate Input Devices

Continued from page **21**

and emulates a Wacom in addition to Hitachi's own tablet formats.

We plugged the Hitachi Multipad into the same PC that had given us so many hassles with the Wacom ArtPad and SD series tablets and lo and behold it just worked. In no time we were successfully using the pen with Photoshop Corel Photo-Paint and Fractal's Dabbler and Painter products. All of these titles except Photoshop supported pressure sensitivity without any fiddling. The pen works as a mouse pointer in Windows 3.x and Windows 95 too and the Hitachi software allows its barrel button to be configured to perform a number of functions.

The MultiPad's only minor drawbacks are the fact that its pen requires batteries and that on the PC, the tablet and mouse cannot be used simultaneously (you have to use Windows Setup to switch drivers). Other than an apparent incompatability with Fauve Matisse the MultiPad was a smashing success compared to our Wacom experiences on the PC.

We expect that Mac users will find the MultiPad even more versatile. It can connect to the modem port (not the printer port, by the way) or for those with a modem already occupying this port an Apple Desktop Bus box converts the tablet to connect to the ADB ports also present on every Mac. The MultiPad like all other tablets we've tested on the Mac allows the Mac mouse and pen to be available at the same time (although of

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course they'll fight for control of the pointer if you try to use them simultaneously) Pressure sensitivity worked flawlessly in all Macintosh programs we tested, including Photoshop

Eclipx tells us that the Hitachi Multipad is also capable of supporting a "Z axis," which can allow a 3-D program to move objects in 3-D space just by altering the angle of the pen Nifty

The tablet has a slightly textured surface (actually, a transparent overlay) that feels like writing with a "traditional" pen We preferred it to the surface of the Wacom ArtPad and 510-C tablets

CIC which recently emerged from Chapter 11 bankruptcy protection is perhaps best known for its MacHandWriter tablet a pen based user interface for the Macintosh MacHandwriter provides users a cordless pen and tablet (made by Calcomp) alternative to the keyboard and mouse and can be used as a handwriting recognition system (in English or with the Macintosh Japanese KanjiTalk operating system) or simply as a mouse replacement.

MacHandwriter allows direct handwritten input of kanji, hiragana katakana and alphanumerics into the computer Users are able to communicate with their Macintosh simply and naturally by pointing, writing and drawing with the pen According to the company MacHandwriter is compatible with any Macintosh application written for KanjiTalk

We tested MacHandWriter and while it was fairly good at handwriting recognition we found that after a few months it became tiresome to continually correct recognition errors, even with the most precise and meticulous handwriting We now use the system and its battery-powered pen as a mouse replacement only

CIC MacHandWriter tablet

CIC also offers handwriting recognition systems for Microsoft Windows for Pen Computing GOs PenPoint and CICs own PenDOS PenDOS is a pen-based operating environment which works with new and existing DOS applications on pen-based computers The company says PenDOS transforms existing fully mouse-aware DOS applications into pen aware applications without modification

While we didn t test the CalComp DrawingSlate II, it is available in a Wintab compliant PC version or a Mac ADB model It uses the same battery-operated pen as the CIC MacHandwriter The PC version supports a feature called "Dynamic Windowing " which allows you to designate areas on the tablet to switch between open software applications, the Mac software does not have this feature Several sizes are available including a 6x9 inch model that sells for US$395 Like the MacHandWriter and Hitachi tablets the DrawingSlate II has a transparent overlay that makes tracing diagrams convenient The units have a lifetime warranty in North America Call Calcomp at 800-458-5888 or 602 948-6540 for more info.

Hybrid Input Devices

Hybrid input devices such as keyboards with trackballs touch-pads or other pointing devices built in are largely a matter of personal taste. We d pass on most of them although the IBM-designed TrackPoint is one of our favorites Some portables from NEC AST, Toshiba and of course IBM have a TrackPoint device (AST calls it a "stick" pointing device) we ve also seen it on some special-order IBM desktop PC keyboards

The TrackPoint pointer resembles a pencil eraser protruding up from between the "H" and "J" keys. To move the mouse pointer you just push this rubber button in the direction you want to go Some users find that slowing down the mouse tracking speed improves their TrackPointing accuracy

Our main complaint about the TrackPoint is that precise movement such as drawing dragging, or making accurate text selections is a little tricky and fairly tiring to your finger Also the rubber tips tend to wear down fairly quickly getting either very smooth and slippery (IBM s TrackPoint III has a rough "Cat's Tongue" surface to address this problem) and/or so thin that you can feel the hard plastic peg beneath them Because of this, most manufacturers include a couple of replacement rubber tips Despite these quibbles we prefer a TrackPoint to a trackball.

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Trackballs

Most users find that trackballs get dirty too quickly and the smaller ball sizes are unduly difficult to control. We were fairly impressed with a PC trackball called Trackball Pro (formerly known as Rollermouse) from CH Products. With its billiard-sized ball, and conveniently placed buttons (including a "click lock" feature that allows you to drag, scroll and draw without holding a button down) it was comfortable and had a good feel. It emulates a Microsoft Mouse, compatibility should be 100 percent. It was recently named best trackball in PC Week magazine and scored a perfect 10 in both quality and compatibility in their tests. A Mac version that connects to the Apple Desktop Bus is also available, as are versions for Amiga, Sun, ACCESS.bus, RISC 6000 and SGI machines. The serial model for PC is US$129.95, the Mac unit sells for $119.95.

Trackball Pro

The company also sells a line of game controllers, including the FlightStick Pro and Virtual Pilot devices mentioned in the January 95 issue of TCP. Contact CH Products at 619 598-2518.

Another good brand is the Kensington Trackball (PC and Mac versions are available for about $115). This unit had software that is optional, but has some interesting features such as the ability to jump to pre-defined hot spots on the screen. We've noticed a few apparent conflicts between its software and Radius display drivers, but on Macs without this software it works well.

For the Mac, we were able to locate a couple of trackballs: the above mentioned units and an el cheapo model for $39.

We also spotted something called the Trackmate, a small-ball trackball embedded in a wristpad from Key Tronic.

For the PC, Microsoft's BallPoint mouse (US$85) and the Logitech Trackman Voyager (US$89.95) are popular "small-ball" choices. Microsoft is rumored to be coming out with a baseball-sized trackball soon. Generally, small trackballs are harder to use than large ones.

As with all input devices, you have to be sure to get the connector that fits your computer. PC users will typically have a choice of a D-shaped 9-pin serial connector or the small cylindrical PS/2 connector. Mac users may have a choice of devices that connect to the ADB or serial ports, both of which look superficially similar. (Serial connectors are likely to have eight pins, ADB devices have four.)

A number of portable computer manufacturers put trackballs on their notebook PCs. Their position, however, varies widely. Compaq has some notebook models with the trackball at the lower right side of the screen, a position the company claims its market research revealed was the best liked position (it is surprisingly comfortable, at least if you're right-handed). NEC's Versa P/75 has the most bizarre trackball position we've encountered. It's on the front face, where a suitcase's handle would be. With the portable on your lap people will get some pretty strange ideas if they see you fiddling around with a trackball in that position. We found it awkward and uncomfortable to use.

Voice Control

We don't want to dismiss the technology outright, but we must confess that controlling our PCs via voice commands hasn't proven to be particularly useful to us so far. Although *The Computer Paper* has several computers that have all the necessary hardware and software to accomplish common computing tasks ("Computer, Undo") via voice command, we almost never use these features. Why? Because people around the office snicker every time they hear someone pleading with a machine. If a command fails to be recognized after one or two tries (an all-too-often occurence), the snickers quickly turn to bellylaughs.

If voice control is your thing, numerous voice command systems are available, including Listen! from Verbex, Voice Master from Covox, the Microsoft Sound System, as well as products from IBM, Compaq, Apple and Dragon Systems.

Also available are actual voice dictation systems that convert your spoken words into text. Companies that sell voice dictation systems include Kurzweil, Dragon Systems and IBM. Most affordable systems employ "discrete speech" recognition, which means you must pronounce each word separately and distinctly, rather than rambling on to your computer as you might into a tape recorder.

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Keyboard Ratings:

Apple Ergonomic Keyboard

Price	$200
Price/performance	☆☆☆
Compatibility	☆☆☆☆
Ease of Installation	☆☆☆☆
Ergonomics	☆☆☆
Overall Score	70

Notes: Adjustable split angle Some users may find separate numeric pad awkward Wrist rests fall off easily Cursor keys function keys, and some other keys in non standard shapes and/or locations.

Microsoft Natural Keyboard

Price	$140
Price/performance	☆☆☆☆
Compatibility	☆☆☆
Ease of Installation.	☆☆☆☆☆
Ergonomics	☆☆☆☆
Overall Score	80

Notes: Includes special "Windows keys" supported by Windows 95 Does not support current versions of remote access programs. All keys in standard locations Non-adjustable split angle can be configured to tilt backward a position that is surprisingly comfortable

Ergologic Keyboard

Price	about $500
Price/performance	☆☆☆
Compatibility	☆☆☆☆☆
Ease of Installation.	☆☆☆☆
Ergonomics	☆☆☆☆
Overall Score	80

Notes Compatible with all programs, any PC Keys in standard PC XT locations Some users may dislike the function key positions on left of keyboard Adjustable split angle forward-only tilt and wrist rests.

SmarTech Pen Keyboard

Price	$207
Price/performance	☆
Compatibility	☆☆☆
Ease of Installation	☆☆☆☆
Ergonomics.	☆
Overall Score:	45

Notes Emulates MS Mouse Summagraphics tablet Connects to AT type keyboard and serial port Does not include PS/2 keyboard port adapter or 25-pin serial port adapter Does not support resolutions higher than 800x600 properly Short cord on corded pen Cursor keys and some other keys in non-standard locations Position of Function keys makes Alt-F4 difficult to reach with one hand Manual contains many errors

DataHand not tested
Comfort Keyboard System not tested

Pointing Device Ratings:

Wacom ArtPad

Price	$249
Price/performance	☆☆☆☆☆ (Mac) ☆☆☆ (PC)
Compatibility	☆☆☆☆ (Mac) ☆☆ (PC)
Ease of Installation	☆☆☆☆☆ (Mac) ☆☆ (PC)
Ergonomics.	☆☆☆☆☆
Overall Score	95 (Mac) 60 (PC)

Notes does not require mouse to be disabled and/or disconnected Two-button cordless batteryless pen Optional bundle with Fractal Dabbler software Excellent manual PC version has some compatability problems with Microsoft Word for Windows and other programs UltraPen replacements are US$59.95

Hitachi Multipad

Price	(PC) C$435, (Mac) $456
Price/performance	☆☆☆☆
Compatibility	☆☆☆☆ (Mac) ☆☆☆ (PC)
Ease of Installation	☆☆☆☆☆ (Mac) ☆☆☆☆☆ (PC)
Ergonomics.	☆☆☆☆
Overall Score	85 (Mac) 80 (PC)

Notes Mouse was disabled while pen was active on our test PC Mac mouse continued to work. Cordless pen requires batteries. Easy software installation Numerous tablet customization options and functions PC version apparently incompatible with Fauve Matisse No pressure sensitive support for Photoshop with supplied Windows driver

CIC MacHandWriter (HandWriter for Windows also available, not tested)

Price:	$399
Price/performance	☆☆☆
Compatibility	☆☆☆☆
Ease of Installation	☆☆☆☆☆ (Mac)
Ergonomics	☆☆☆☆
Overall Score	80

Notes does not require mouse to be disabled and/or disconnected A cordless non-pressure sensitive battery-operated pen is included (An optional pressure-sensitive pen is available separately.) Bundled but optionally installable handwriting recognition software which we didn t find to be a particularly viable way of entering or editing data

Although the pressure pen was not tested (it s over twice the price of the Wacom pen) users on CompuServe report some incompatibilities with Fractal Painter and other software

Cirque GlidePoint

Price	US$99
Price/performance	☆☆☆☆
Compatibility	☆☆☆☆☆ (tested on PC)
Ease of Installation	☆☆☆☆☆
Ergonomics	☆☆☆☆
Overall Score	90

Notes Dynamic acceleration rate is adjustable Emulates MS Mouse Lifetime warranty

CH Products Trackball Pro

Price	US$99
Price/performance	☆☆☆☆
Compatibility	☆☆☆☆☆ (tested on PC)
Ease of Installation	☆☆☆☆☆
Ergonomics.	☆☆☆☆
Overall Score	90

Notes Dynamic acceleration rate is adjustable Emulates MS Mouse Lifetime warranty

Not tested Calcomp DrawingSlate II

Epilogue

It s also worth pointing out that a truly ergonomic environment is much more than just having a redesigned keyboard or mouse Your chair desk, lighting and perhaps most importantly your work habits all play an important role in office ergonomics Work sensible hours take regular breaks to stretch your muscles avoid glare and be sure to sit comfortably with good posture For further info see the following articles:

- Zap! Guide Provides Good Advice on Safe Computing, TCP Oct 94
- Industry begins to heed RSI Dangers TCP, Oct 94
- The Microsoft Keyboard, TCP Oct. 94
- Cirque Corp Gliding to Success TCP Feb 95

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Guide Explores RSI Perils, Prevention

BY KEITH SCHENGILI ROBERTS

Title	*Repetitive Strain Injury: A Computer User's Guide*
Authors	Emil Pascarelli MD and Deborah Quilter
Publisher	John Wiley & Sons
Price	$23.95
ISBN	0-471 59533 0 Softcover 218 pages 1994

Since the advent of personal computers more than a decade ago people have been complaining of strange pains and aches in their hands Over time these complaints have become more numerous and there is hardly an office or business containing computers that does not have its sufferers. The type of injury and the level of pain varies from mild numbness in the fingers to intense pain that prevents some people from working at a keyboard. In extreme cases sufferers are unable to drive their vehicles or open doors because of the pain For those already afflicted or who want to prevent this from occurring to them *Repetitive Strain Injury: A Computer User's Guide* is an excellent book on the subject

The book is co authored by a columnist who became afflicted with a repetitive strain injury, and a doctor who specializes in treating them. Repetitive Strain Injuries (RSIs) includes the commonly-known Carpel Tunnel Syndrome, which has become the catch-all name used by many people (and some doctors) for what is in fact a range of repetitive strain injuries RSIs are not limited to keyboardists — workers ranging from meat-packers and grocery store check out clerks have known about these conditions for years but since the advent of the computer keyboard it has become a problem in the white collar world. It didn't affect many typists because mechanical typewriters stopped people from going too fast and the tiered arrangement of the keys prevented the bad hand posture that is a major contributing factor to the injuries.

So what are RSIs exactly? RSIs are caused by prolonged repetitive awkward and forceful hand movements Damage can be caused to many different parts of the hand including its muscles tendons and nerves which give rise to many distinct types of RSIs The book also reveals that many different causes can lead to RSIs including factors like posture, furniture, gender body weight temperament and many others The authors believe that prevention is the best medicine, and teach many different techniques, exercises and what to look for in ergonomic computer accessories.

For those who already have an RSI, it also looks at how to find a doctor experienced with treating RSIs According to the authors many doctors receive little training in medical school on fine motor disorders of the hand and can be unsympathetic or too willing to resort to the knife in solving the problem Finding the right doctor can mean the difference between finding a cure and living a life with constant pain in your hands unable to do many common activities

The book also looks at other common disorders seen in computer workers, including eye strain and neck fatigue The book is very thorough and straightforward There's even a section dealing with how to properly handle a computer mouse. Checklists tell you how to assess your risk of getting an RSI what warning signs to look for and how to find a good doctor to treat your disorder The book is not preachy and takes a very level headed approach to the topic, and tells people in plain English what they can expect if they have an RSI

The book provides a real warning about the prevalence of RSIs. According to one source it cites RSIs may costs businesses $20 billion a year in the US By the turn of the century, three-quarters of all jobs will likely require a computer This problem is simply not going to go away and while better furniture and ergonomic keyboards may help they are no substitutes for keeping yourself informed about the issues

Most people who are likely to pick up this book may already be experiencing symptoms of an RSI or be concerned about the number of co workers who have been affected by it This book is ideal in many ways because it does its best to provide the sort of information most people would want straight no-nonsense information on the problem and what can be done about it. ❑

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Cancellation System Creates Sounds of Silence

BY ROO LAMIBAND

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Price US$149

It was the end of the second day of a trade show when I passed a small booth below a sign that read Noise Cancellation Technologies (NCT). A fellow there urged me to listen to the lightweight headphones that he offered. I took them and placed them on my head. For about a second and a half nothing happened but then... Then I was rocked!

Silence. Dead quiet.

There was suddenly no noise. It was as if everyone in the 150 booths and all their machinery had suddenly vanished. I couldn't believe it! The company rep said "You can still hear me right?" and I said I could. Turning the thing off I was assaulted by a deep droning hum of all the noises in the hall and the sounds of ventilation machinery. I put the headphones back on and just couldn't believe my ears.

I think active noise abatement — that's how NCT characterizes its software/hardware — will have a profound effect on all our lives. Here's a highly simplified explanation of how it works. A microphone samples the noise that is present. Complex proprietary algorithms are used to calculate and produce sound waves that exactly correspond to the sounds present but are their exact opposites. It also includes calculations of the types and ranges of sounds, cycles and repetitions and even estimations on the next logical area of sound to be suppressed.

By playing the inverse sound waves through speakers (the headphones in this case) the original waves are neutralized. The result is no more noise. However through a formula based on the random nature of speech and its high tonal range, human voices are passed right through the headphones and remain clearly audible.

NCT is currently working with companies in many fields to produce products based on their patents. One example, a new muffler. The current muffler design has remained relatively the same since the 1920's. The exhaust flow is routed through a series of ninety degree turns inside of a cylinder containing baffling. This deadens sound but also places pressure on the air flow exiting the engine. The result — decreased performance and higher fuel use. By placing a sensor in the engine measuring the engine's fluctuating noises, an NCT device at the tailpipe can emit inverse sound waves that deaden the sound but without restricting the exhaust flow. Hard to believe? Watch for it. It's coming.

The company has many other applications: airplanes, heavy industrial plant machinery, that fan above your oven, dishwashers, even hairdryers. With clients such as Saab Aircraft, Analog Devices, Philips, Foster Electric, Detroit Diesel Corp. and Siemens Medical Systems, NCT is posed to explode into our world. The headset is about US $150 and runs off batteries. It comes with a variety of plug adapters and is an excellent pair of quality stereo headphones in its own right. The noise suppression technology can be switched off to conserve battery life if the headphones are being used for music in a quiet environment.

Perhaps the future, which always seems to be screaming down upon us, will be a calm place after all. That's a nice thought. ❑

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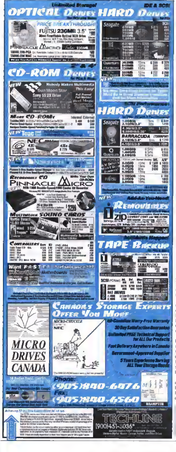

ALTERNATE INPUT DEVICES

PaperPort Eases Paper Glut

BY GRAEME BENNETT

Product	PaperPort scanner/OCR system
For	Macintosh or Windows (Mac version tested)
From	Visioneer 1-800-787-7007
Price	US$399
Pros:	Fast, inexpensive and easy to set up scanner and OCR system
Cons.	No paper guide

PaperPort looks like Braun's idea of a Saren Wrap dispenser, but it is a scanning peripheral for the Macintosh and Windows-based PCs that can help ease the paper glut that so many of us face these days. You feed a piece of paper into the PaperPort scanner and eleven seconds later your scanned page is stored and displayed on your computer's screen. If necessary, the software launches itself when the scanner detects a piece of paper (or, if you lean over too far, perhaps your tie?). It's all very automatic and incredibly slick.

As legend has it, the product was literally thought up while its French inventor was having a shower one morning. He took the idea to Silicon Valley, reasoning that this area was the best place to develop and launch such a product, and rapidly attracted the venture capital that helped make it happen. PaperPort was thus born.

Since the release of the original Mac product, a Windows version has been released that is selling very well, thanks to its easy setup and use — both traits shared by the Mac version we tested.

PaperPort scans a letter sized page in just over 10 seconds, after which you have two choices: you can save the image to PICT, BMP, PCX, TIF or proprietary PaperPort format and/or process it through the optical character recognition software to create editable text.

If you have a multi-page report, you can hit the "stack" button on the control panel and all the images that are highlighted are stacked into one multi-page icon that you can leaf through using the page forward and back buttons. You can zoom in on the image so that you can read the stored page much like you would read a microfiche document.

If you want to create editable text, merely drag the image icon to the OCR button located on the on screen palette, which launches the WordScan 2.0 software that comes with the PaperPort system.

Scan a page as an image:		**11 seconds**
OCR the image and open the resulting text file:		**32 seconds**
Accuracy:	**99%+ on high-quality originals**	
	88% on fair-quality fax originals	

WordScan opened the page directly in our word processor. There's a dialog in WordScan (or the PaperPort preferences menu) where you can choose file format and the application that it opens. It defaults to ASCII and SimpleText. We chose Microsoft Word.

WordScan 2.0 lacks batch-processing capabilities, but you can upgrade the program to the Plus version that has these features.

The PaperPort software also automatically recognized that we had Xerox' TextBridge 2.0 installed, and installed support for it into its on screen palette. However, TextBridge took over twice as long as WordScan to finish its OCR task, clocking in at 75 seconds for our sample page. The TextBridge software was not able to paste directly into our word processor the way the WordScan software did, either.

On our test machine, a Macintosh LC 630 with 12 megabytes of RAM, we were unable to run Word, TextBridge and the PaperPort software all at the same time, using default memory allocations. However, WordScan, Word and PaperPort could all run at once.

A coupon in the package offered us an upgrade to Calera WordScan 3.0 for US$99. We called the company and discovered that, in light of Calera's recent merger with Caere Corp., the company is substituting OmniPage Professional instead of the now-discontinued WordScan for Macintosh product. This is probably a good thing, although OmniPage has hefty RAM requirements.

Although we haven't tested it yet, a Windows version of the PaperPort — formerly known as PaperMax, but now dubbed PaperPort 2.0 for Windows — was recently awarded two "MVP" awards from PC Computing magazine and an editors' choice from Imaging Magazine. Like the Mac version, it plugs into a serial port, making it a viable scanner choice for users who don't want to have to go through the usually troublesome process of installing an internal expansion card. Even a portable PC or Mac can use a PaperPort scanner.

PaperPort 2.0 for Windows includes a couple of features that didn't make it into the Mac version, such as the ability to drag documents into different destination folders, and greater drag-and-drop support for over 50 applications. We'd say that Visioneer has a couple of winners on its hands. Even though we'd like to see a future version include a paper guide to ease the sometimes tricky process of getting paper to feed correctly, the PaperPort is the best desktop solution we've seen yet for easing the paper glut. Its reasonable price is merely a bonus. ❑

ALTERNATE INPUT DEVICES

Read With Your Pen

BY DAVID TANAKA

If you are a writer or researcher, the DataPen may become an indispensible companion for your research trips to the library. Plugged into your notebook computer, you'll be able to scan bibliographic entries, passages of text or directory entries directly into your document No more photocopying or manual typing.

Product: Iris DataPen
From Iris (Image Recognition Integrated Systems) America
Price $499

We've heard of salespeople who assemble quotations in a single document by scanning information from diverse sources marketing literature catalogues and prices lists

The DataPen is a handheld scanner plus optical character recognition (OCR) software that allows you to capture bits of text and paste them into most Windows applications

Using the DataPen is very much like using a felt tipped hi lighter to mark text When you pass the DataPen over the line of text the device captures the text image, and then the OCR software translates it into editable text The scanning tip is offset so that the pen works best when you hold it at a slight angle from vertical — about the same angle as you hold a normal pen or pencil works well Because of this design, the pen is oriented for use with the right hand, something to keep in mind if you are left handed (although we've heard of people inverting the text — and the pen — and using it with their left hand)

The pen part of the DataPen is hardly of pen proportions, measuring 6 x 75 x 1 5 inches Nevertheless the rounded plastic block is very light (75 grams) with a velvety smooth surface texture and gently sculpted indents on each side where your thumb and middle finger naturally fall when you grip the pen Located on the top edge of the pen is a programmable button switch that you click with your index finger You can use the button to execute a number of simple keyboard commands, such as carriage return or cursor move

Being a single line scanning device, the scanning aperture is quite narrow — 1 cm There are three white lines at the tip of the pen to help you align the scanning window over the line of print you wish to scan

Iris says the maximum length of a single pass is 11 inches and the optimum scan rate is two inches per second The device will handle text from 8 to 22 points

We found the DataPen quite forgiving of the actual scanning rate We tried some slow passes some quick ones and some where we would purposely vary the rate In most cases the DataPen performed as expected

It is also reasonably tolerant of our wandering off the text path — in other words, you won't need a straight edge to make sure the DataPen follows the precise path of the line of text If you can move a

➤

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Read with Your Pen

Continued from page 31

felt-tipped highlighter over a line of text and keep the mouse over the text, you should be able to use the DataPen

We tried scanning a number of text samples that provided a range of character sizes and paper stocks Small text (7-8 points in our estimation) in a shaded box in a glossy magazine proved to be too much for the DataPen which couldn't interpret any of the characters But it produced only a few errors translating the same size text on office bond Scanned bits of text from *The Computer Paper* and *Macleans* also proved to be almost error-free

The scanner plugs into a parallel port and incorporates a "pass through" design that allows you to also plug in the printer cable piggy back style onto the scanner's connector Software controls whether the scanner or the printer has access to the port

Using the DataPen system is as simple as launching the software then opening an application like a word processor or spreadsheet When you scan text it is OCRed and then pasted directly into your application The OCR software comes from Iris Corp which makes standalone packages called Readiris and IrisDirect

We were somewhat disappointed that the battery pack (powered by four AAA cells) lasted only about an hour However Iris provides a power cable that plugs into the keyboard port and allows the DataPen to draw power from the computer itself It can also be used with an AC adapter which you will have to buy separately

The battery pack clips onto the parallel port connector which itself is fairly bulky because of its port extender design The hydra like tangle of wires you create when you connect the datapen keyboard power tap and printer cable is another minor irritation However the various components fit together well

Overall we were quite impressed with this unit It is well made and seems like it would stand up well to the daily assaults that portable equipment must often endure The OCR software seems well matched to the hardware, and performs very respectably within its specified limits

Our main criticism of the product is its pricing At close to $500 (we've seen it for about $450 in one store) it is far too expensive to become a handy "must have" gadget for every portable user — nay every PC user As it is the quality is there for those that need and can afford such a tool

Iris America appointed a Canadian representative in February, who is in the process of finding retail outlets interested in carrying the DataPen

An identical product called the Primax DataPen (Primax makes the hardware Iris supplies the software and each markets the resulting package under its own brand), is also available for roughly the same price ❑

Contact: Iris America, 407-395-7831

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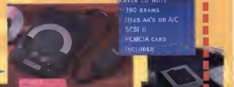

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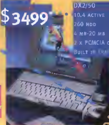

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Value-priced Relisys Offers Speedy Scanning

BY GRAEME BENNETT

Product:	Relisys 2412 color scanner
From:	Relisys 1-800-835-7354. Distributed in Canada by Owen & Hartney 604-940-8880. Available at Future Shop, Aventure Electronique and other retailers.
For:	Macintosh or Windows Windows version tested
Price:	C$690. Transparency adapter C$325. A C$690 automatic document feeder (ADF-30) is available, but was not tested
Software included:	ArtScan, OmniPage 2.02, Adobe Photoshop LE, Kai's Power Tools 2.0

Making a pass

Scanners are increasingly popular with designers, graphic artists, video and multimedia developers — and plenty of gadget-happy users — who enjoy the ability to capture photographic quality images for photo retouching, image editing, and whatnot. Office users, too, find scanners useful for optical character recognition chores, business graphics and desktop publishing work.

Driving much of this interest is the rapidly falling price of desktop scanners, which fall into three basic categories: handheld, sheet-fed, and flatbed. While all three types have their place, we have found handheld units to be the least useful in the long run. Because of their great versatility, flatbed units are the most useful for the above-mentioned tasks. (For a look at our favorite sheet-fed scanner, see the review of Paper Port, elsewhere this issue.)

When considering flatbed color scanners, there are a number of issues to consider. We think the most important issues are compatability, reliability, color fidelity, and performance. Here, in a nutshell, are the things to look for when choosing a scanner.

Compatability

Most units come with a TWAIN driver and a Photoshop plug-in. TWAIN is a "universal scanner driver" that is supported by a wide variety of software packages, especially on the PC. We have it on good authority that TWAIN stands for "technology without an interesting name."

Photoshop is the leading image-editing application that can help turn an okay scan into a great one. If your application doesn't support TWAIN or Photoshop plug-ins, you will have to check that it specifically supports your scanner. Hewlett-Packard scanners are almost universally supported by scanning apps; other brands are less certain.

A related issue is the software bundled with the scanner. Do you get a "limited edition" version of the software that lacks a feature you need, or a full version? Most scanners come with an image editing app (typically Photoshop or Photoshop LE), a TWAIN plug-in, a stand-alone scanning utility, an OCR application (OmniPage Direct is commonly bundled), and perhaps an interface diagnostic tool and/or additional graphics goodies, such as Kai's Power Tools.

As for reliability, this is a tough one for you to test, but we've had a few problems over the last few years here at *The Computer Paper*. We've seen lamps burn out on a couple of scanners (interestingly, both were Microtek ScanMakers), we've had the hinges on cheap plastic scanner lids break (another Microtek unit), we've had automatic document feeders go wonky (on an HP ScanJet). To their credit, we've seen both companies release software updates quite regularly.

We've also seen scanning products with awful manuals (the original La Cie Silver Scanner comes to mind), dubious upgrades (in at least three cases, we've been disappointed with upgrades to Caere products), and limited capabilities (Caere's Typist and Logitech's ScanMan32). Others, such as the Umax UC840, were three-pass scanners that were notoriously slow. Overall, though, we find a scanner — especially a flatbed or sheetfed model — to be a very useful peripheral. And we haven't had a catastrophic failure in any of our scanners yet — knock on wood — or found one that didn't work approximately as advertised.

Image fidelity

In addition to the units mentioned above, we've tested numerous other scanners, including units from Abaton, Apple, Plustek, Umax, ThunderWare and others. Although we haven't room to discuss them all here, be aware that most inexpensive scanners we've seen produce images with extremely dubious color balance. Many such units produce images that are too red, too pale or too saturated. Early Microtek and Abaton units were notorious for over-emphasizing reds, which is fine if you're scanning lobsters, but not so good for people's faces.

However, aside from a few flaws in the hardware and/or software (for example, we uncovered some unusual flaws in the Mac software for the HP ScanJet IIcx in our Feb 95 review that actually produced corrupted images at certain resolutions), most such image or color fidelity problems can be fixed rather easily in a photo retouching program like Photoshop.

Resolution is another important issue, especially if you plan to do a lot of black and white ("line art") scans. Having a high res scanner is less important if you plan on scanning in color or gray scales, as these files get so huge (at 300 dpi, which virtually every scanner on the market can handle), a 5x7 inch photo produces a whopping 10 megabyte image file.

Performance

We recommend single pass scanners over three-pass models. Single-pass color scanners are generally faster and, if doing a color preview, sometimes a lot faster.

A single-pass unit generally costs a couple of hundred dollars more than a three-pass model.

In most of the areas mentioned above, the Relisys 2412 color scanner performed rather well. It has an easily removable lid (with real hinges) and the lowest-cost transparency adapter we've seen. The C$325 transparency adapter isn't a replacement lid, as is the case in most other flatbed scanners we've seen; this one is a 6 x 8-inch plate with a fluorescent light source that has a handle on it that allows you to pick it up and move it around as if it was an iron. It produced surprisingly good results and, in fact, it seems to hold small transparencies somewhat flatter than the "lightbox lids" of other scanners we've seen.

The 2412 uses a single-color CCD sensor and has an optical resolution of 1200 by 300 dots per inch. According to the company, it generates 16.8 million colors. I can't guarantee that figure, but I can vouch for the claimed 19.8-second scanning speed of the unit. As the chart below shows, the unit completed our test scans considerably faster than a Hewlett Packard ScanJet IIcx — a rather speedy scanner.

Color accuracy of the 2412 was not as good as we had hoped (images tended to be on the undersaturated side and a little dark), although we were able to tweak the images into shape by increasing the saturation, brightness (experts will prefer to use Photoshop's Adjust Levels command instead of the Brightness/Contrast control) and adjusting the color balance to add a little more red.

Software

The ArtScan plug-in for Photoshop is a bare-bones "crippleware" version of a product the company hopes you will pay to upgrade. The supplied version (we tested version 3.17R)

lacks support for several advanced features such as auto-rotation, sharpening, calibration and descreening. The optional upgrade software, which we did not test, also promises to add a high-speed "486DX" mode, which is said to improve the speed of I/O between the scanner and the computer. Even without these features it works reasonably well.

Also on your list of software you might want to upgrade is the version of Photoshop 2.5 bundled with the scanner. This "LE" (limited edition) version lacks several features we find more or less indispensable: the bezier pen tool, CMYK preview mode, color separation output, and more. We'd recommend upgrading to the full version 3.0 release — but be sure to save some cash for RAM. Although version 2.5 runs nicely on 8MB of RAM, Photoshop 3.0 won't run on systems with less than 10MB of RAM memory. It may be worth mentioning that Photoshop 2.5 isn't compatible with Windows 95, and that Photoshop 3.0 isn't compatible with OS/2 Warp. It works well under Windows 3.x.

The most troublesome problem we encountered was the fact that, in one of the systems we tested it on, the SCSI interface card "went away" periodically during scanning and the scanner would stop working. After rebooting, it would reappear. We were unable to determine the cause of this infrequent problem, but noted that it only happened on one of our test systems, a ValuePoint 486DX/S. On a different PC with similar equipment (the same SCSI termination, sound card and a similar network card) this problem did not occur.

The PC version of the scanner comes with a SCSI interface card. The Data Technology 3152 SCSI-2 interface card is ASPI compatible.

As all Macintosh computers have built in SCSI support, an interface isn't needed on the Mac model.

Continued on page 38

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SIMTREK SE 120 With more than 24 [illegible] this space flight & combat simulation program will keep you at the ship's bridge VGA & mouse

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Forms Made Easy

BY GORDON GOBLE

Title	Delrina PerForm for Windows
From	Delrina (Canada) Corp
Suggested Retail Price	$174.99 (Street Price $125)

Consider the unappreciated business form. Dry conservative, dull — rarely regarded as a work of art. But listen to anyone who's designed his or her fair share of these things, and you'll hear that these essential documents require time, consistency, and artistic ability

A staple of our workaday world, business forms are usually produced in spreadsheet programs word processors drawing packages, or a combination of the above End results and production time vary from software to software: while a spreadsheet or word processor offers practicality, drawing packages lend more flair and customization Unfortunately there just isn't an abundance of special-purpose packages to suit this meticulous mind-numbing task.

Delrina's PerForm for Windows is just such a package, its sole purpose on this earth being first, the design and construction of forms, and second, the electronic management of data collected by those forms Combining the feel (including some of the same hot keys) of Corel-Draw with the user-friendliness of Microsoft Publisher and offering several features of a spreadsheet program, PerForm is a sensible alternative It is perfectly suited to the large small or SOHO business that is routinely confronted with cranking out new forms, and that's just about all of them

As alluded to in the last paragraph the freedom of movement afforded by PerForm bears a striking resemblance to a graphics and drawing package, meaning there are not a lot of constraints with which to deal Objects may be dragged and dropped at will grouped and ungrouped, layered, or nudged in varying increments One may shade shadow color or re-size a given object by using the on-screen "handles" that appear when that object is selected. Even a little drawing is allowed, although logos and such should be created elsewhere, then imported. PerForm supports the importation of several standard file formats including BMP, WMF, TIF PCX .EPS and GIF and includes an "object library", a storage space for often used graphics logos, etc.

Being a Windows-based program, PerForm also supports Object Linking and Embedding (so that alterations made to your logo in, say Aldus Freehand will be reflected within your PerForm file) and will make use of any Windows-installed font that your heart desires All of this means that the end result will undoubtedly reflect your artistic flair And you thought forms were boring!

PerForm will match the ability of both the business form rookie and experienced pro The real advantage comes in the 44 pre-set forms that come with the program including Credit Applications Accounts Payable and Accounts Receivable, Employment Applications, Invoices, Purchase Orders and even Business Cards. Each of these may be customized by simply responding to a few on screen questions the program will ask (a function not unlike Microsoft Publisher's "Page Wizard") and detailed tailoring may then be made manually when the basic layout has been finalized.

In building the perfect Work Order, for example, one would make their selection from

the list of pre set forms then answer some simple queries PerForm will ask if you'd like a Standard Classic Modern or Professional approach, with on-screen samples of each look. Other questions (in order) are: "Do you want a header?" (with choices from PerForm's limited offerings, or one of your own) "Do you want a background image?" (again, pre-defined or original), and "What is your Tax Rate?" for later calculations

The resulting form is automatically created and pops onto the screen, complete with the current date in the appropriate spots, ready to be modified to meet requirements. Generally the pre set forms cover most of the bases and look pretty good yet aside from personal preferences certain forms may require a little tinkering to centre certain headings enlarge, create boldface or reduce type size thicken lines etc This may be getting picky but I found most of my printed product could be improved upon, and design veterans may feel the same way (although these perfectionists may well be designing from scratch anyway)

Not Just A Form Maker

One of the strengths of PerForm is what it allows you to do after you've designed your form Sure you can print out any form you design and use it as a paper document However you can also create an electronic forms system which links into a database that is built and updated as each electronic form is completed on the computer screen.

There are a number of advantages to electronic forms which are really just data entry screens for a database You can set them up so that the date field is automatically filled in with the current date You can also create look-up lists so that you select an item rather than retyping the same things time and again You can perform data analysis and math operations like totals on some fields The built-in "calculation" feature allows you to add numbers total fields or create field formulas.

PerForm allows you to define "masks" (instructing a telephone number field for instance to accept only numbers and automatically bracket the first three characters entered in that field) All electronic forms are ready to have their blank spaces filled in with data spell checked, then saved for re-use at another time

Screen ergonomics are very good, making PerForm a quick and easy program with which to deal. Flyout shortcut menus are available for any object with a mere double-click on the mouse and toolbars may be reconstructed reshaped and moved about the screen at one's discretion Zooming is satisfactory although I prefer the marquee magnifier found in most graphics packages.

PerForm supports up to 99 pages per file

Continued on page 57

Insure Your Home Office

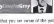
If you are operating a part-time or full-time business out of your home you have already made a conscious decision to reduce the financial risk in terms of low start up capital and low overhead But a home-based business is vulnerable to liability risks Keep in mind that almost all basic homeowner policies specifically exclude any claims for losses incurred in your home or around your property as a consequence of home business activity Here are a few examples and the types of insurance that would protect you.

1 **Scenario** You have an electrical power surge which damages your home office computer equipment and destroys all your clients records
Solution Business property/business replacement cost insurance added to your home insurance

2 **Scenario** You operate a computer tutoring business and someone who comes to your house slips on the stairs, injures her back and is off work for six months. You are sued
Solution General liability home insurance with business use additional coverage

3 **Scenario** You have a short circuit in your computer equipment resulting in the house burning down and loss of business revenue
Solution Home fire insurance coverage with additional business use coverage/business interruption insurance.

4 **Scenario** You have expensive desktop publishing hardware and software in your basement office Your home is broken into and all your equipment is stolen
Solution Business property/business replacement cost insurance, added as a supplement to home insurance.



Now that you are aware of the potential risks relating to the home office aspect, the next step is to select the right protection

Your goal is to ensure you are fully covered at all times This can be achieved by periodically reviewing your risk and keeping your insurance representative promptly informed of any changes in your business that could affect your coverage Such changes include buying more equipment building an extension to your home or using your personal car for business If you are using your car for business and personal purposes have your insurance company cover the car for the business use aspect Otherwise your policy coverage could be void if you have a claim It's not worth the risk and the extra premium is nominal.

You may need to increase your liability limits Or a change in circumstances may mean you no longer need a certain type of insurance or level of coverage. Periodic reviews will save you being overinsured and help avoid overlaps and gaps in coverage thereby keeping your risks and premiums lower This is especially important if your business is growing.

To help plan your insurance program, assess your business and identify the likely risk exposure areas. Decide which type of protection will work the best for you — absorbing the risk minimizing the risk or insuring against the risk

To reduce the cost of insurance shop around for competitive rates and negotiate for lower premiums if your loss experience is low If you need a high level of expensive protection Increasing the deductibles should lower the cost of the premium Look in the Yellow Pages under "Insurance Brokers." Contact at least three of them for quotes.

If possible, have one agent handle all your business insurance to avoid duplication of coverage And speak to your lawyer about the benefits of incorporating your business for personal liability protection purposes

For example most home insurance companies will provide additional protection, referred to in the industry as a "rider" or "endorsement" to your existing home insurance policy This would cover business equipment losses or increase the third-party liability coverage to include injury to people on your property for business-related reasons. These riders generally exclude business interruption losses product liability off premises loss or disability income coverage You may therefore want to check out group insurance coverage for other aspects of your home business Certain organizations have excellent insurance programs for their members. For example contact your local Chamber of Commerce the Better Business Bureau or the Retail Merchants Association for information.

Studies show that only one-quarter of home business owners are covered for theft, damage or other loss of business equipment. More than two-thirds have no business interruption insurance Nine out of 10 have no disability insurance and most do not insure the business use of their cars Most do not have extra homeowner insurance coverage for their home business In addition, many homes are underinsured or lack adequate replacement value coverage.

To protect your assets, adequate insurance is a must for the home-based business owner If you don't have the proper additional insurance coverage, your claim will very likely be rejected The premium cost for any additional coverage for business purposes is a 100 percent tax deductible expense against your business income ❑

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486SX2-66 AMD $1639 1 Year parts and 3 year labour warranty

Relisys

Continued from page 34

Scorecard

Color Fidelity	**fair**
Speed:	**excellent**
Options	**good**
Bundled Software.	**good**
TWAIN Plug In.	**fair**
Overall Value	**good**

Test#1

(4x6 photograph@170 dpi)

RGB Preview	**26 seconds**
Final RGB scan	**26 seconds**
File Size	1.97 MB

Test#2

(5x7 photograph@300 dpi)

RGB Preview	**26 seconds**
Final RGB scan	**50 seconds**
File size	10.0 MB

Test#3

(8.5x11 line art@600* dpi)

B&W Preview	**17 seconds**
Final B&W scan.	**88 seconds**

Test#4

(5x7 photograph@600 dpi)

Grayscale Preview	**21 seconds**
Final grayscale scan	**98 seconds****
	(retest. 105 seconds)

Notes

The Relisys achieves resolutions up to 2400 dpi via interpolation. The HP ScanJet IIcx has an optical resolution of 400 dpi.

**Approximately 50% of the Relisys grayscale scan was completed in 25 seconds. The Artscan TWAIN module then did nothing for thirty seconds, then finished up by 65 seconds then did nothing again until the completed scan appeared half a minute later.

For comparison, an HP ScanJet IIcx turned in the following times (all previews took 0:26 including lamp warm up, or 0:07 with warm-up lamp option turned off)

Test#1:

(4x6 color@170dpi)

Final	**0:28**
file-sizes as above	

Test#2 :

(5x7 color@300dpi)

final scan	**1:50**
	(over twice as slow)

Test#3·

(line art@600dpi)

final scan	**7:28**
	(almost seven times as slow!)

Test#4

(5x7 grayscale@600dpi)

final scan	**8:10**
	(six times as slow!)

Conclusion

Using the default settings, the HP scanner produced much better images, with better color reproduction. However, with a bit of fiddling with Photoshop's color controls, we were able to get the Relisys scan to look at least as accurate as the HP default.

However, there is no denying that the Relisys 2412 is a speed demon. This makes it a good choice as a desktop scanner for graphics production and OCR tasks. ❑

Another Step Closer to Conversing With Computers

Speech... The Final Frontier

BY ROSS MACDONALD

Product: VoiceType Dictation for Windows, OS/2, Unix software/hardware package includes PC Card, ISA or Microchannel adapter card

From: IBM Corp.
Old Orchard Road
Armonk, New York 10504
1-800-TALK-2-ME

MSRP: $1 400-1 550 (depending on adapter card)

Boy, Captain Kirk sure was lucky. He would say "Computer! Give me something about something and tell me something about the probability of something," and he'd immediately get something back.

And COMMA If you - can - speak like this for any length of time without going crazy - COMMA you can feel a little like Captain Kirk - when using - VoiceType - Dictation - software PERIOD NEWPARAGRAPH

If on the other hand there's some kind of unifying flow to your talking - and - thinking and writing, VoiceType Dictation will leave you feeling more like the computer than the captain. Because the only way VoiceType Dictation works — and make no mistake, it does work — is by forcing you to speak in what is generously called "discreet speech." That means you have to leave a minimum 1/10th of a second pause between each word. Which can be very distracting when you're composing a letter or creating a literary masterpiece (like this article). The irony, of course, is that Captain Kirk talked that way anyway.

VoiceType Dictation is one of the few programs to hit the market that allow you to speak to your computer in real English and have the words come out properly on the screen. IBM claims a 96 percent accuracy rate immediately after you've introduced yourself to the voice analyzer and I saw no reason to dispute that. But more on that later.

You might have already heard about this one because VoiceType Dictation isn't exactly new. UNIX users have had access to this software for more than two years while OS/2ers have had it for the past 14 months. What is new is that we legions of lamentable slaves to Microsoft can now use it too, since this "Windows" version was introduced a few months ago.

Those UNIX and OS/2 roots ought to give you some hint about the system requirements though, because a program as sophisticated as VoiceType Dictation demands a lot of resources. The minimum requirements for achieving at least tolerable performance include a 486SX 25 with math co-processor (desktops) or 486DX 33 (portables), 16 MB of RAM, 25 MB of virtual memory and 32 MB of free hard drive space. You also have to alter your CONFIG.SYS so that FILES=60 and BUFFERS=60 and you have to switch off the 32-bit disk access in Windows during installation.

If you've got at least that hardware or better and you like the idea of dictating one word at a time AND you're willing to pay $1,500 for the privilege, then VoiceType Dictation is the stuff you've been looking for.

The package includes whichever adapter card you need for your system (ISA, Microchannel or PC Card), a microphone/headclamp kit, a whopping 380 page user's guide, a handful of other sundry sheets of paper and 16 diskettes.

Continued on page **41**

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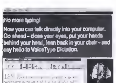
Voice Type

Continued from page ***39***

I tested the PC Card version using a brand new Compaq LTE Elite 4/75 CXL notebook with a 500 MB hard-drive and 16 MB of RAM, so the minimum hardware requirements were well met and then some.



No more typing!

Now you can talk directly into your computer. Go ahead - close your eyes, put your hands behind your head, lean back in your chair - and say hello to VoiceType Dictation.

Installation was surprisingly simple. You just pump those diskettes into the floppy drive under Windows' program manager. The only serious problem I encountered was that, at the outset, the computer kept telling me it knew I had shoved the PC Card into the slot, but the card wasn't configured and it damn well wasn't going any further till I did something about it. I spent way too much time scouring the user's guide and cursing — and reading diskette directories — all in a vain quest for clues. Finally, totally exasperated, I ended up calling IBM's 1-800-TALK 2-ME number as I suspect every other discombobulated consumer must.

And my suspicions are evidently correct. That line is dedicated specifically to VoiceType Dictation and there were 12 technicians manning the phones, but I still had to wait four hours before somebody called me back. I went ahead and installed the software while I was waiting anyway, only to discover that it kindly configures the adapter card as part of the process. So, when I did get a call from IBM's friendly technician, I didn't need his help anymore. Still, I wasn't happy about all that time wasted because of the incomplete documentation.

Also, there's a prompt during installation that asks whether you are using a low gain or high-gain microphone. The default is set for low-gain but you have to switch to high gain because that's the type of microphone that comes in the box. The documentation makes no mention of this either — so I suppose I did need IBM's help after all.

But you won't have to go through all that now that you've read this. Instead, you can enjoy the simplicity of the installation as it was intended to be. Then it's time to introduce yourself through a module called "Enrollment."

Enrollment is necessarily convoluted because it's the process by which VoiceType Dictation learns your particular speech idiosyncrasies. Get comfortable because the estimated time to read through the 270 sentences in the module is about two hours. I managed to get through it in about 80 minutes without strain, however, so that's probably a more realistic expectation. After that, you go away and watch TV for about three hours as Enrollment enrolls you. It takes that long for the software to build some kind of voice recognition file based on everything you just read it.

When that's done, you're finally ready to go. By the time you've gotten through enrollment you have forgotten that you ever talked any other way. Talking funny somehow seems more normal than talking normal, so you're all prepared for dictating your first document.

I blabbed and blabbed and blabbed some more and the software made a few mistakes but largely understood what I was saying. One of the wonders of IBM's speech recognition programming is that it warms up to you the better it gets to know you — accuracy visibly increases the more you talk. They've also employed an exclusive technology called "Tri-Grams" which means the software makes decisions on which of similar words — like to, two and too — is correct by reading and understanding the context. That also means it's a bad idea to watch the screen while you're dictating because wrong words show up lots of times, which can be very disturbing. But if you ignore them and keep on talking, you'll see VoiceType Dictation going back to make corrections as the context for those words becomes clearer.

I didn't bother figuring out exactly how fast I could go, but an anonymous IBM staffer told me you can speak up to 120 words per minute on a Pentium based machine. He also told me the UNIX and OS/2 versions are faster yet because "Windows isn't very good at math." It hampers VoiceType Dictation's abilities.

Though I'm sure IBM would roundly deny it, the demand for "discreet speech," strenuous system requirements and equally hefty price tag all combine to make VoiceType Dictation for Windows a pretty specialized package. I don't see too many casual computerites grabbing for this one.

The most obvious market is people with "special needs" (I think that's what they call it these days). With its high accuracy rate and learning abilities, VoiceType Dictation will be most welcome to anyone who can't effectively use a keyboard.

But IBM has identified other niches in which this package has become popular. Doctors and lawyers, for example, seem to particularly like VoiceType Dictation in lieu of paying a stenographer. Journalists apparently like it too because it relieves the tedium (and repetitive stress afflictions) of spending your life at a keyboard. In fact, IBM has introduced add-on disks containing specialized lexicons for doctors and journalists and there's more for other fields on the way.

But the surest cue to the current market can be taken from the fact that VoiceType Dictation's largest sales have been to corporate executive types. And why not? They don't have to use their own money to buy it.

Funny though, not too many sales to Starfleet Command. But I'm sure that'll come in the future.

Beam me up, Scotty. We're done. ❑

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"Switch to Works! Maximize window! Open new word processor!"

Thus begins my work on this review Alas I still have to punch the keyboard to get the text in — "Write article!" just doesn't seem to generate any results (but I understand that certain software developers are working on that too)

The most amazing thing about Listen for Windows is that it seems to work I say "seems to" because there's a training process involved that I just haven't had time yet to fully utilize

The idea behind Listen for Windows is deceptively simple- you speak commands to the computer and they're magically fulfilled on the screen The two of you communicate through one of those headphones with a built in microphone arm that dangles in front of your mouth the kind you see Madonna wearing during her live performances (so I've heard) I'm sure she uses better quality stuff, mind you, but the idea is the same and Verbex has kindly included this piece of equipment along with the software.

When I first got Listen for Windows I was somewhat skeptical, having embarked on several fruitless expeditions through the similar world of the Microsoft's "Voice Pilot," an adjunct to their Windows Sound System Software But where I had virtually no success with that utility I saw immediate results with Listen.

This accomplishment can be largely attributed, I'm sure, to the fact that Listen for Windows includes modules of the most common commands for a wide variety of popular applications. You have to be careful when you open the box, as an injudicious movement might cause the two dozen "Speech Interface Reference Cards" to flutter to your feet in disarray This already looks daunting, but once you determine that they're simply summaries of the commands that Listen already understands for individual applications, you can cull the ones you'll never use and the whole thing becomes manageable

Listen for Windows comes on four disks and installation is relatively straightforward. One of the first decisions you have to make is which of the speech interfaces for individual applications you want to install I chose Windows 3.1, Word 6.0 and Works 3.0 because they're the things I use most

Once installed, the first thing to do is launch the "Voice Training" module This involves sitting in front of your computer sporting your new Madonna headset and repeating the pre-set commands into the microphone over and over and over again as they flash up on the screen. You're supposed to speak normally so Listen can learn your own particular speech pattern, but it's almost impossible not to tag an exclamation mark onto the end of every command — Do this!, Do that! Go here! Go there! I guess there's a little Hitler in all of us.

As you progress, however you begin to wonder just who exactly is training whom as you're forced to express commands in Listen's idiom, not your own I would, for example, naturally say, "Launch Works" or "Open Works" to start that particular program. Listen will only respond to "Switch to Works!" — thus all the speech interface reference cards in the box.

And I've discovered that the "Hitler syndrome" isn't such a bad thing after all as Listen often retreats into the sensibilities of a pouting infant that simply has to be taken to task — "open window .. Open Window! .. OPEN WINDOW DAMMIT!!!" The latter invariably gets things moving

It is possible, too, to train Listen to understand and obey your own commands, but that reads like a very complicated process in the manual involving speaking and defining keystrokes and stuff that I just haven't had the fortitude to explore. I'll take a chance though and guess that, judging by the way the pre-prepared stuff works it would probably entail a somewhat arduous road to success but success would eventually be achieved.

The pre-prepared stuff includes just about everything you need anyway so I don't imagine too many people will feel the inclination to use the customization options.

So much for kudos — installation is relatively simple, it seems to work well and it's easy to learn.

There are, however, as you might have anticipated, some drawbacks. The one most people are going to like least is that Listen slows Windows down considerably In order to be of any practical regular use, the launching file goes into your "Startup" group This delays Windows from activating while Listen sets up Then, in order to work, it interrupts itself to ask you for a sample of ambient sound You sit quiet for about five seconds while the microphone listens to any background noise that it will decide is not

Continued on page **96**

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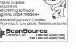
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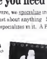

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TCP TEST LAB

The Price Of POWER

BY JEFF EVANS

Well, last month, *The Computer Paper* Labs tested old, comfortable, inexpensive technology, in the form of 486 based PCs For most real world computing needs, these systems proved to be a good balance of performance and price With list prices ranging around $2,000-$3 000 for complete multimedia systems with monitors (and street prices well below $2 000 in some cases), these low cost systems are helping to extend the availability of modern personal computing into an ever wider user community

The Need For Speed

However, we only had to go as far as our families and co-workers to encounter a more ambitious, aggressive attitude towards computing power

"I wouldn't even look at a 686 these days," one freelance writer sneered. When I asked what he did with his new Pentium computer, he answered, "word processing telecom, a little music, and Doom, mostly."

Many others were at least a bit more reasonable in the logic behind their desire for a Pentium "I want to make sure that my computer can handle the latest business applications three years from now," said a doctor relative who is shopping for a new PC. Whether a product of strategic analysis or machismo, the desire for a Pentium based PC is widespread.

According to Ray Lancashire of Dell Canada, higher end name brand PC makers are emphasizing Pentium, often to the complete exclusion of the 486 Small office/home office PC buyers, in particular, seem to want the extra speed and promise of future competitiveness that Pentium seems to offer According to representatives from AST Compaq and Dell, the average home PC buyer is buying a Pentium based system loaded with RAM, multimedia features and a big hard drive The cocooning generation is dragging heavy silicon into the nest.

The Sum Of All Its Parts

But what, really, are you getting with a Pentium based PC? In theory, if you were to use a Pentium PC that is essentially the same configuration as a 486 PC except for the processer, you would get an increase of neady 100 percent in raw processing power for a Pentium chip with the same clock speed compared to its 486 cousin. In practice, however, an increase in CPU speed is only part of the solution in the quest for more power As we've found in our previous tests there are several variables that contribute to the speed of a system in real world software applications The Pentium by itself makes a difference, but to get a true performance machine, you need to select (and pay extra for) the best components.

The article on "How to Read a Computer Ad" in the April issue of TCP is a good starting point for understanding what you are actually getting with your PC. Here's why you should be very concerned about the components of your PC other than the main processor

Thanks For The Memory

First of all, to obtain maximum performance on any PC, you need sufficient RAM to run applications comfortably with a minimum use of the hard drive (otherwise, for example, large graphics files may have to be cached on the hard drive which can make operations excruciatingly slow) Database performance bogs down horribly on a 4 MB RAM system — 8 MB is the minimum to run current Windows applications, and 16 MB or more of RAM is recommended if running graphics programs such as Adobe PhotoShop or Corel Draw/Corel Ventura, or any other RAM intensive program To take fullest advantage of Windows 95 or OS/2 Warp's multitasking, the more RAM, the better

You may find that, in practical terms, it does you more good to spend your last few hundred dollars on extra RAM (at about $50 per MB) rather than spring for the fastest (and most expensive) processor and then have to scrape by on too little RAM. One of the most interesting findings of this survey for this author was the discovery that bumping your system RAM from 8 MB to 16 MB has an enormous effect on the speed of database operation. The three systems we received which came with 16 MB all had much better database benchmark scores than 8 MB systems (see table)

Hard drive speed is also a determinant of real world software performance Most PCs have IDE hard drive controllers, which are cheap and quite reliable, but slow SCSI drives are significantly faster, but also more expensive and trickier to configure and use A new generation of enhanced IDE controllers offer near-SCSI performance, and greater simplicity, but somewhat less in expandability options than SCSI Premium business computers, such as Compaq, often have SCSI, and show the results in a higher sticker price, and better performance.

One of the simplest enhancements to performance can be obtained by selecting a good graphics card The best of the current crop of 32 or 64 bit graphics cards, from manufacturers such as Canada's Matrox and ATI Techoologies, or US makers Number Nine or Diamond, can make Windows PCs really cook, by reducing screen refresh times from "interminable" to "instant-gratification."

One other thing to look for is the amount of RAM on the video card The norm nowadays is 1MB for an SVGA display (at least 1024 by 768 pixel resolution, with 256 colors from a 16.7 million color palette) A premium-quality video card will have 2-8 MB of video RAM on board, and will give better performance due to the larger amounts of RAM

As well, there are considerable improvements in speed from a PC that has either a VL local bus or a PCI bus, as opposed to the old ISA bus architecture. A PCI bus can transfer data at a rate of up to 130 MB per second, which makes it a good choice for computation intensive jobs such as CAD, desktop publishing, or graphics The PCI version of a graphics card will give significantly better performance than the local bus or ISA version When PCI was first introduced, users paid a premium price for systems with the new bus Now, however, the price differential is nominal — perhaps $25 in manufacturer's costs Most Pentiums on the market have PCI buses: many budget 486 PCs, to save a little money, have VL buses. Expect to see PCI become virtually the norm.

Add in the advantages of having additional cache RAM (to speed up the execution of instructions), and double, triple or quad speed CD-ROM drives, and there are two obvious conclusions to reach

1 First, the Pentrum chip is only one part of the puzzle By itself a CPU with double the raw processing speed may actually ooly boost performance by 40-50 percent, unless you add on all the other components (RAM Cache video accelerator, faster bus, faster hard drive, faster CD-ROM reader) that are needed to get a truly state of the art system.

2. Second you get what you pay for If you want a premium system, you will pay a premium price.

As well, there are the usual, less tangible factors in determining value What software is included with the system? What warranty is offered? Is a modem included? Has the system been designed with improved ergonomics, or network compatibility or other special needs in mind?

The Contenders

This said in our survey we looked at a sample of some of the most popular Pentium systems available in the Canadian market as well as a sampling of the offerings of some smaller vendors We were looking for price/performance, as usual but we also kept our eye out for particular suitability for demanding business applications

When requesting Pendum PC evaluation units from vendors, we specified a 60 66, 75 or 90 MHz Pentium based system with 8 MB of RAM, at least a 300 MB hard drive, SVGA graphics, MS DOS and MS Windows, and a multimedia kit (CD-ROM drive, 16 bit sound card, speakers) As it turned out, three units

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were received with 16 MB of RAM a Compaq XL590 90 MHz PC, a Compaq XL 466 486/66 PC (which we tested as a kind of backward glance at the 486 s performance) and an Ultinet 90 MHz PC The extra 8 MB of RAM made a big difference in database performance (and would possibly have improved some graphics software performance if running files with large bitmaps)

We removed the RAM from the Ultinet and replaced it with 8 MB worth of SIMMs, and re-ran the tests, to see what this would do to the results (see table) We ran BAPCo s SYSMark 95 benchmarking program which loaded and ran many of the most common Windows applications programs (MS Word Novell WordPerfect MS Excel Lotus Ami Pro Corel Draw MS PowerPoint etc.) When compiling the tables we grouped the slower (60 MHz, 66 MHz, and lone 486/66) systems together followed by the 75 MHz systems followed by the 90 MHz systems Here s what we found.

Acer Power MiniTower (90 MHz)

This was the first Acer system we ve tested and it was impressive. very nicely styled with a large (810 MB) Conner drive, an internal 14 4K modem and a nice CD-ROM pack as part of its multimedia kit Performance was very good (see table) and the price for the package was quite reasonable. The warranty was both good (onsite service) and bad (only one year though with additional options) A very good system with extremely fast graphics

Aptiva 710 (IBM)

This system, like other IBM Aptivas we ve tested at the TCP lab, is very well made and comes with all the productivity, entertainment educational and telecom software a typical home user would need to get started. It ran the BAPCo software flawlessly, proving its Windows compatibility with most of the standard business software programs With a 60 MHz Pentium processor performance was very respectable compared to a 486 Though not the cheapest system it continues IBM's tradition of not skimping on quality and is an excellent brand name choice for a home/home office computer

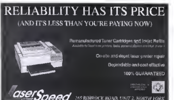
AST Advantage! Adventure 6075p: The One That Got Away

The AST system was incredibly friendly and easy to set up, due to the extremely well integrated mix of hardware (including a 14 4 Kbps internal modem, 16 bit audio and a Quad Speed CD ROM drive) and a host of applications programs and utilities organized as AST Works The software comes installed on the hard drive but a special boot disk and CD with a duplicate of all the software makes do-it-yourself re-installation of the entire system a breeze The Adventure 6075p comes with a CD pack including Encarta '95 and Cinemania 95 Telecom is extremely well supported with a package of free startup offers for CompuServe and Prodigy, and sophisticated fax data and voice telephony software The included external speakers are of good quality and the entire package is presented in a very nicely designed case, with a good quality SVGA monitor The keyboard is very comfortable and quiet. As with many of the better designed systems many connectors are integrated on the motherboard (mouse video out parallel and serial ports) so the compact semi slimline case still offers five expansion slots free.

Earlier AST models impressed us with good integration, but were a bit slow This Pentium model offered good performance to round out its mix of good features How good was the performance? Well there's the rub However hard we tried we couldn t run the BAPCo benchmarks on this AST The system tried very hard not to let the user (us) mess up the AST Works software environment, by refusing to let BAPCo take over the system (BAPCo essentially trashes the existing config sys, autoexec bat files and version of Windows and substitutes its own, in order to ensure reliable honest benchmark scores) We considered disconnecting the CD ROM drive, reformatting the hard drive, and using an external CD ROM drive to load BAPCo but in the end we decided to respect the system's resistance to our efforts and left it alone

This robust ability to save the user from his or her best efforts to mess up the system is probably an excellent feature for the novice user though not for the reviewer It doesn t prevent the user from loading applications software more ordinary than the admittedly finicky BAPCo suite we loaded and ran Microsoft Office Professional on the system without problems

Continued on page **48**



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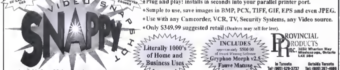

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PENTIUM BUYERS' GUIDE

	Aptiva 710 (IBM)	Express Micro 586 VESA	AST Advantage Advent. 6075P	Comtex Mach 5 WINpack	Hits /Daiwa	Packard Bell	Seanix ASI 9000 MiniTower	Sirus /Performax
Intel Pentium Processor	66 MHz	66 MHz	75 MHz	75 MHz	75 MHz	75 MHz	75 MHz	75 MHz
Architecture	N/A	PCI	N/A	PCI	PCI	PCI	PCI	PCI
System Bios:	IBM Version 8.02	Award	Award	Award	Award	AMI	Award	Award
Plug & Play Support:	Yes	No	Yes	No	No	Yes	No	No
Hard Disk Drive:	425 MB	730 MB Quantum Lightning	540 MB	540 MB	630 MB Fujitsu	1080 MB	1040 MB	840 MB
Video Card	S3 Vision 864	Cirrus 54xx (All)	Cirrus Logic	Diamond Stealth SE	ATI Mach 64	Cirrus 54xx (A0)	ATI Mach 64	ATI Mach 64
Max. Video Resolution:	1024 x 768 256 colors	1024 x 768 64K colors	1024 x 768 256 colors	1024 x 768 256 colors	1280 x 1024 256 colors	1280 x 1024 16 colors	1280 x 1024 640 colors	1280 x 1024 640 colors
Max. Video Colors.	65 536 (800 x 600)	16 million (640 x 480)	16 million (640 x 480)	16 Million (800 x 600)	16 million (800 x 600)	16 million (640 x 480)	16 million (800 x 600)	16 million (800 x 600)
Video Memory:	1024 KB	2048 KB	1024 KB	1024 KB	2048 KB	1024 KB	2048 KB	2048 KB
O/S DOS Version	IBM DOS 6.30	MS DOS 6.22	MS DOS 6.22	MS DOS 6.22	MS DOS 6.22	MS DOS 6.22	MS DOS 6.22	MS DOS 6.22
Windows Benchmarks								
Word Processing:	148.46	183.40	N/A	161.32	188.37	183.81	188.53	187.32
Spreadsheet:	192.36	198.80	N/A	217.33	849.60	202.61	224.67	211.67
Database:	132.74	124.63	N/A	182.84	124.65	136.42	154.67	131.52
Desktop Graphics	205.16	228.35	N/A	268.23	247.44	245.27	282.51	248.37
Desktop Presentation.	143.18	182.02	N/A	174.29	188.41	181.87	173.35	163.96
Desktop Publishing:	152.55	158.82	N/A	171.34	182.58	181.30	176.26	181.42
SYSMARK	152.57	170.64	N/A	181.21	175.73	177.27	180.21	176.22
Extras:	9600 modem, CD-ROM pack	CD-ROM pack	14.4K modem, CD-ROM pack	MS family CD-ROM pack	CD-ROM pack	14.4K modem, Vest CD-ROM pack		
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Suggested Retail Price	$3,699	$3 778	$2 940	$2 740	$2,304	$2,804	$3 145	$3,560
Warranty:	3 year	5 yr labor 3 yr parts	3 year	5 year	2 year	1 year (plus options)	3 year	2 year

*Prices are for a typical end user configuration: a desktop PC system with hard drive 8MB of RAM, multimedia kit (CD-ROM drive, sound card, speakers), keyboard, mouse, and MS Windows. Monitor not included except where noted. Extra features are noted in the table.

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Intel Pentium Processor:	90 MHz	90 MHz	90 MHz	90 MHz	90 MHz	60 MHz	90 MHz	90 MHz	90 MHz
Architecture	PCI	PCI	PCI	PCI	PCI		PCI	PCI	PCI
System Bios:	Award	AMI Ver 1.02	Compaq	AMI Ver 1.00.08.A	Award Ver 1.00	AMI	Award	Award Version 1.02	AMI Ver 1.00.10.A
Plug & Play Support.	No	No	No	No	No	Yes	No	No	Yes
Hard Disk Drive:	810 MB Conner	540 MB	512 MB	325 MB	730 MB Quantum	530 MB	540 MB	815 MB	540 MB Conner
Video Card:	Cirrus 54xx (All)	No Nine GXE64	VGA	No Nine #9c928	No Nine GXE64	ATI Mach 64	Cirrus Log PCICL543	Vision 864	Cirrus 54xx (All)
Max. Video Resolution	1024 x 768 256 clr	1152 x 864 256 clr	1024 x 768 256 clr	1024 x 768 256 clr	1600 x 1200 256 clr	1280 x 1024 256 clr	1024 x 768 256 clr	1280 x 1024 16 clr	1280 x 1024 256 clr
Max. Video Colors:	16 mil (640 x 480)	65,536 (800 x 600)	16 mil (640 x 480)	65 536 (800 x 600)	16 mil (800 x 600)	16 mil (800 x 600)	16 mil (320 x 200)	65,536 (800 x 600)	16 mil (640 x 480)
Video Memory:	1024 KB	1024 KB	1024 KB	1024 KB	2048 KB	2048 KB	1024 KB	1024 KB	2048 KB
O/S DOS Version	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22	MS DOS 6 22
Windows Benchmarks									
Word Processing.	186 60	145.82	(186 29)	171 41	183 43	163 40	150 45	180 70 (225 71)*	181 81
Spreadsheet:	243 73	221.65	(228.88)	240.23	236.82	226 84	211.85	235.96 (242.95)	248 91
Database	132.44	112.68	(268.33)	113 44	134 66	106.64	96.47	136.36 (280 64)	118 38
Desktop Graphics:	287.97	277.37	(294.18)	277 30	292 52	276.57	279 54	268.03 (304 88)	264 87
Desktop Presentation:	179 10	163.37	(179.83)	181 80	178.81	164 84	147 58	179.93 (223 36)	174.28
Desktop Publishing:	179.44	186 16	(190.63)	181 68	178.37	158 94	143 87	179.83 (218 31)	172.81
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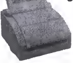

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Pentiums

Continued from page 45

Canon MT900 InnovaMedia

This is a new offering from Canon and it is a very good home PC package with an included modem and useful software, though in its initial release pricing quite expensive Performance was respectable, though on the slow end of the 90 MHz Pentium spectrum

Compaq DeskPro XL590

This desktop PC is an excellent business system in almost every category, it is a premium machine PCI bus integrated PCI SCSI 2 controller 540 MB SCSI II hard drive high speed Qvision local bus graphics energy saver features, 16 MB of RAM, 256 K cache memory. The proprietary TabWorks Windows overlay makes for very simple operation by users of any level of experience There are nice touches such as a surprisingly good speaker built into the keyboard

The system is network ready, with an integrated NetFlex ENET/PCI Controller Included software is extensive with the Vocalyst Keyboard/Business Audio and very good CD ROM utilities The FS 151 15" monitor sent along with the system is exceptionally crisp steady and bright.

Performance is extremely good - fast, and perfectly reliable in all of our tests The only downside is that this system is very expensive compared to the average clone PC. Nevertheless it is extremely good value for money However at the price it is a pretty stiff investment for a home PC user The DeskPro line is Compaq s mainstream offering to business users (Compaq dominates the Canadian corporate PC market), while the Presario line (examples of which we have reviewed in previous surveys) is aimed at the SOHO market, and offers good price/performance for the average home PC user

Compaq makes much of the fact that industry studies indicate that the initial cost of PC hardware accounts for only 12-15 percent of the five-year cost of an office PC. The remaining 85 percent or more of lifetime PC costs relate to maintenance and service Compaq's DeskPro line costs more upfront, but Compaq argues, quite convincingly that the quality of its Deskpro line translates into much higher productivity and lower operating costs On the basis of our tests, this seems to be a reasonable claim

Compaq DeskPro XL 466

This unit is an anomaly in a Pentium survey, but despite being based on a 486/66 its overall Windows performance was only slightly behind the IBM Aptiva (60 MHz Pentium) and about 11 percent behind the Express Micro 66 MHz Pentium This is an indication that a well designed 486 is still competitive in raw speed with a budget Pentium

Dell Dimension XPS P90

Dell tends to have some of the most nicely engineered PCs on the market, and the company prides itself on leading with new features This system is a big desktop computer with lots of expandability (it had six free card slots even after the installation of the multimedia kit) and its price/performance is very good It is a good choice if you want a nice balance between quality performance and price

Express Micro 586 VESA MiniTower

This was the only 66 MHz Pentium system submitted, and it had remarkably good performance ranking less than 10 percent in Windows applications speed behind 75 MHz models and about 15 percent behind most of the 90 MHz models. The unit is well made and came with a big (730 MB), fast Quantum hard drive The Cirrus-based graphics card with 2MB of video ram gave good performance, all for a very attractive price Combined with an excellent warranty, this is a very good entry level Pentium PC

Continued on page 50

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Pentiums

Continued from page 48

Express Micro Pentium 90 Tower

This physically huge system is designed for the business power user, either as a heavy duty workstation or as a server We have had one running in the TCP office in both capacities and it is a very fast, almost endlessly expandable system. Even fully configured for multimedia with a CD drive and sound card, it still has four front drive bays and four rear card slots free for additional devices

The system is based on a 90 MHz Pentium processor, with 8 MB RAM 256K cache memory, and a Quantum 730 MB hard drive The system comes with MS DOS 6.22 and Windows 3 11, and our test system has Windows NT 3 51 preloaded as well The user can select between either O/S through a simple option during the startup sequence Performance on this system was very good. At the suggested list price it is a lot of computer for the money

Hits/Daiwa 75 MHz and 90 MHz Mini Towers

These two units, from a mid sized PC maker, were among the price/performance leaders for a basic desktop PC They both have solid core components (graphics cards

Continued on page 52

The Road Ahead: The View From Intel

This is a survey intended to show what's out there in PCs based on the Intel Pentium processor Unlike the 486 survey last month, where 486 clones from AMD and Cyrix were a big factor, "Pentium"-style clone chips from other chip makers didn't even show up on the radar Intel still seems to own this part of the market. You have to either go considerably upscale (to MIPs or Alpha based PCs running Windows NT, or a Silicon Graphics Indy) or over to Mac territory to find offerings for power users With a wide range of debugged increasingly inexpensive Pentium chip models in full production, Intel is well placed to remain the dominant supplier of processors for the PC industry

In an interview conducted in the TCP offices with Doug Cooper of Intel Canada, we tried to get a picture of how the company that makes the Pentium chip sees the PC market evolving in the next year or so As marketing manager for Intel Cooper has an interesting perspective since he deals with all the PC manufacturers, and perhaps sees trends faster than most other observers of the industry According to Cooper over the course of a single year (1994), PC performance has doubled without any real increase in price. "The big growth area for PC sales is in the retail (home and home office) market " he says "Home PC users have driven the rapid acceptance of Pentium and also of multimedia "

Cooper used the meeting to announce the official release of the 110 MHz version of the Pentium processor, and he suggested that prices of older Pentium models could be expected to continue to decline. Cooper expects that the increasing affordability of Pentium will help it become overwhelmingly dominant in the market by the end of the year, just in time for the release of the P6 processor He firmly expects the P6 to be in full production "in the last quarter of 1995" The P6 will offer the power to support "Native Signal Processing" (NSP) the ability to accommodate sophisticated audio and video functions on the motherboard of the PC, using inexpensive analog to digital conversion chips to feed multimedia info to the main processor

This may mean much simpler, more reliable, inexpensive multimedia capabilities in future generations of Windows PCs. According to Cooper, Intel processors are not the whole story the rapid improvements in performance and price in all the categories of PC components have "raised the bar" for what is now considered entry level PC performance. According to Cooper "everybody's dream machine costs $5,000 fully configured," but "the bulk of the market is in the $1 500-$2,500 range " What makes this bearable according to Cooper, is that last year's unaffordable $5K luxury system's performance is now available in this year's $2 5K mainstream commodity PC ❑ Contact Intel, 416-213 4122

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Pentiums

Continued from page **50**

with 2MB of video memory, decent sized hard drives (530 MB Fujitsu) and a selection of CD ROMs with the multimedia kit. There was only about $150 difference between the 75 MHz and the 90 MHz models with a Windows applications performance differential of about 9 percent. The extra cost for the faster processor, in this case, would be money well spent The units suffer slightly in comparison to other systems. they have a two-year warranty (the majority of other models had three years) and neither model comes with a modem and telecom software, a common feature of more lavish (and somewhat more pricey) models Nevertheless, an Impressive offering

IPC Select Series 90 MHz Mini-Tower

This system arrived late in our survey process but was easy to set up and ran the BAPCo benchmarks quickly and flawlessly and so was able to meet our publication deadline It is a well made, trouble free system with decent performance and the overall quality is very good Historically, the multimedia kits included with IPC products have always worked with a minimum of hassles and the system is extremely compatible with the mainstream Windows software suites (MS Office Professional and Novell Perfect Office)

Packard Bell Force 447CD

The Packard Bell computers that we've tested in the lab are among the best on the market, in terms of integration and ease of use, though some lower end models gave slow benchmark scores The 477D tested out better due to its 75 MHz Pentium processor, and had a number of impressive features a 1080 MB drive, twin double speed CD-ROM drives, 14 4K modem, excellent sound system and stereo speakers and PCI Local Bus Video and PCI IDE hard drive controller The list of included software is very long all organized under the Packard Bell "Navigator" Windows overlay, and including 17 entertainment and productivity titles, plus FaxWorks and Prodigy telecom software

Packard Bell has rapidly earned a good reputation in the consumer PC market (and an increasing market share) because of the excellent packaging of features in its current product line As with some of the other lavishly featured brands the price is not the lowest but the quality is excellent and the overall system is good value

Seanix ASI 9000 Tower

The Seanix system was based on a 75 MHz Pentium and came with 8 MB of RAM and 256 K of cache memory The unit came with a PCI bus and a large 1083 MB IDE hard drive Like all the other Seanix products we've looked at this is a very clean, solid, and high performing PC It was notable for having a very large hard drive (1 GB), and the model we tested, with its ATI Mach 64 graphics card, had extremely good graphics performance A good portion of that graphics speed is a direct result of the ATI card potential buyers of any PC are well advised to check carefully to see what brand of card is in the particular PC they are considering buying It can make up to 10 percent difference in the Windows applications speed.

Sirus/Performax Pentium 75 MHz MiniTower

Another good offering from a mid sized vendor the Sirus was well priced and also benefited from an ATI Mach64 graphics card with 2 MB of RAM This system came with few frills (no modem, no extra software) and a 2 year warranty but it gave very good, trouble free performance at one of the lowest prices

Continued on page **53**

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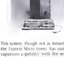
Ultinet 90 MHz MiniTower

This system, as supplied, was the fastest unit we tested. It came extremely well configured with a 1 GB drive, high quality Vision 864 graphics, and 16 MB of RAM. Database performance in particular was spectacularly improved by the extra RAM, so we replaced the 16 MB supplied with 8 MB and re-ran the benchmarks. The results can be seen in the table. Thus Ultinet was the high performance leader of the Pentium pack, and at the price is a very good product. As with any PC configuration, though, it would be a good idea to very carefully compare the components of any system you are looking at in a store with those described in the system we tested in our lab. In terms of price and performance, though, this is the one to beat.

VTech Platinum Tower



This system, though not as mountainous as the Express Micro tower, has considerable expansion capability: with the multimedia configuration we received still offering six card slots and two front drive bays free. The system is based on a 90 MHz Pentium, and comes with 8 MB of RAM and a Conner 540 MB hard drive. It also has parallel and serial ports on the motherboard. Performance was good, and this system is a good balance between price and performance.

And The Winners Are:

Best Buy (60-75 MHz): Packard Bell Force 477CD Multimedia.
With a very impressive set of features (huge hard drive, two CD ROM drives, modem, horde of software titles, easy to use Windows overlay), the Force 477CD is terrific value. A measly one year warranty was not enough to push it out of the lead.
Very close runners up were the Hits/Daiwa 75 MHz mini tower, which offers similar performance and a bit better warranty at a great price, but without the extras, and the Comtex Mach 5 WIN pack, which has better performance and a better warranty at a slightly higher price, but with a smaller hard drive and only one CD-ROM.

Best Buy (90 MHz):
Tie between the Express Micro 586 and the Dell Dimension XPS P90
If database processing speed is not an issue, then the Hits/Daiwa is an excellent alternate choice.
This was really close, because several systems had similarly impressive performance/price ratios. Ultinet's 90 MHz mini tower was the undisputed Windows performance speed demon when configured with 16 MB of RAM. When stripped down to 8 MB to more fairly match the other contenders, it still had extremely impressive performance, but was more in line with the other systems. The Express Micro 586 had good value in its large hard drive and excellent graphics, and limited five year warranty and was also quite inexpensive. Hits/Daiwa's 90 MHz was the low price leader, but was hobbled a bit by having only a two year warranty, weak database performance, and a minimum of extras. Acer was a surprise with a very nice balance of performance and features, including a large hard drive and internal modem, but unaccountably only came with a one year warranty. **The Dell Dimension XPS P90** had very good performance, and an extremely aggressive price for a name brand. ❑

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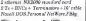

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The Collective Computer: Networking's Next Horizon

BY GEOF WHEELWRIGHT

A computer network used to be a simple way of exchanging files and sharing expensive peripherals such as printers Theses dry, however, it is not an exaggeration to say that the network is the computer

If you look at all the traditional functions of even the most basic computer there is clear evidence that the network has become the system, and all the individual workstations, printers, servers and other elements within the networked system serve to drive the computer

In any computer system, there are four major elements to its function. input, output, processing and storage Today's network systems — most of them based on Novel NetWare — fulfill the criteria to handle all of those tasks

Input

The workstations on a network provide a high volume of input to the network system from a vast variety of sources These include keyboards, screens, scanners, fax modems and other input devices used on the network.

The input devices used by the network can be as simple as a diskless workstation that exists simply to store data on a server and as complex as an engineering workstation that handles the display and modification of complex computer aided design models

But at the end of the process it is the network — and not just any single PC or workstation — into which the data is being input.

And as workgroup applications become more commonplace, this change is accelerating as the role of the "network as computer" becomes more vital Workgroup applications become the engine that helps collect data that can be used by the network in its service of the enterprise (which is now the user of this computer rather than the individual). Electronic mail alone provides the network system with a high volume of complex input that it can then manage and process

Output

Outputting data produced on the network has been a key feature of network systems since their inception In fact, the objective of sharing printers drove the growth of early network systems in a big way

These days, however, data generated by any one of the myriad of input devices and workstations on the network is just as likely to be headed to a network printer as it is to a plotter, a fax modem, a plotter, an "electronically published" document an electronic mail system or to be routed to an external online system

So in the interests of managing enterprise-wide resources, it is the network which often handles this output. It often makes much more sense to have a single, high speed high volume, multi-line fax modem or a high-performance laser printer serving a group of PCs than it would to equip each PC with a mediocre modem and printer.

Processing

Sitting between and around the input/output functions of the network as computer is its vital role in processing data. This is a modern role for the network — which started life as a fairly "dumb" system that could only do what it was told.

These days, however networks often include servers with multiple processors (and the upcoming Novell NetWare 4 1 will include symmetric multiprocessing support to make the most of this technology) and can effectively act as "application servers"

It is this role which has for many years been filled by Unix in the minicomputer and high-end personal computer environments In application server based systems, processing work is farmed out to the servers on the ➤

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network that are best-suited to handle given tasks (usually those high-performance servers that have spare processing capacity)

In such a system the network is vital to the processing of data, for it is the network that parcels out where and how the data for a given task or process is handled. Without the network, the application would not exist.

And that is perhaps the most important change that has started taking place in recent years. Many new applications require the existence of a network to operate properly — and treat the network as the computer. It is to the network that you install and configure the application, with various types of workstations listed as users of the application.

Now the application actually runs on the network rather than multiple instances of the application running on workstations on the network and merely using the network to transfer data files between them.

Applications and Data

If you think of the network as the computer, it also changes your view of applications and the data they create. Modern applications — such as Lotus Notes and the new PerfectOffice from WordPerfect — do install themselves to a network and run on top of a network operating system in the same way that the desktop applications of the 1980s installed themselves to a desktop PC and ran on top of a disk operating system.

Those 1980s applications could not have run without DOS and today's network application cannot run without the services provided by the underlying network operating system.

Meanwhile, the view that applications take of the data available to them does not end at the edge of a desk. Given the right LAN (local area network) and WAN (wide area network) connections, users of the "network as computer" are just as comfortable accessing data that is physically stored halfway around the world as they are retrieving that which resides on their local hard disk.

And in many cases, particularly when documents with links to other documents on the network are opened, users will probably not even be aware where the data actually resides. They just know it is "somewhere in the system." As always, the "system" in the modern context is actually the network and one part of a compound document may be in one physical location with the rest thousands of miles away.

What you could call "reliability with flexibility" is yet another major reason why this view of the network as computer is a particularly positive development.

In other times, the phrase "the system is down" would send terror and anxiety into the hearts of users, with visions of late nights and missed deadlines dancing like rainclouds above their heads.

In the modern network, there is enough reliability, fault tolerance and local processing power in the components of the network that no single component is indispensible. It is a very rare set of circumstances indeed that would prevent users in the network computer user population of the 1990s from being able to work with their applications and data.

Old mainframe and minicomputer systems could not boast such reliability, and desktop PCs were islands unto themselves and often could not help one another out when one went down.

So today's networked systems are designed from the outset to be flexible, expandable and responsive to the needs of the enterprise. They do not require mass migration to upgrade only some elements of the system.

If you have a system using DOS and Windows workstations running NetWare, adding an Apple Macintosh-based desktop publishing workstation is no more difficult than adding a printer or fax modem. The enterprise network is the computer and the added hardware is merely yet another device to support, not a cause for major network restructuring.

Network operating systems like NetWare are designed to operate with a number of hardware and operating system platforms so that phrases such as "appropriate solutions," "co-existence" and "co-operation" become the bywords of the enterprise network management team.

The Future

The role of the network as computer can only increase. Enterprise wide computer systems cannot function effectively without a strong and flexible network as their backbone, and the fast pace of development in the network based applications sector will ensure that it is very much in their interest to think of the network as the computer.

If organizations still think of the computer stopping at the edge of the desk, they will be doomed never to move beyond that desk. And that would not give anyone much of a future. ❑

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Pros User-friendly software; easy file-sharing and access to network resources
Cons The complexity of OS/2 Config.sys and PC networking in general resulted in a number of failures before we got this product to work. No long filename support when used with a Windows NT server.

As you have probably noticed, we've been testing OS/2 Warp and other operating systems over the past few issues. One of the features we hadn't been able to say much about was local-area networking with Warp — it has no built in LAN support, and neither Apple's Mac OS or Microsoft's Windows NT Advanced Server (NTAS) directly supports OS/2 clients. We asked IBM how to solve this problem and, predictably, the company recommended its own LAN Server package. For various reasons, mostly relating to the fact that we wanted to access a Windows NT server, IBM's LAN Server didn't pan out.

The company then suggested Artisoft's LANtastic 1.0 for OS/2. We installed it and, after a moderate amount of fiddling about, it's up and running very nicely. Here's the scoop.

We tested Lantastic 6.0 with several networking cards including Intel EtherExpress 16, NE2000T, a low-cost CNet NE2000T clone, and Artisoft's own Noderunner Ethernet cards. Of the bunch, the Noderunners proved to be the least hassle, as they are the only ones that auto-configure. The cheap "jumpered" type of cards are the biggest hassle, as you have to (find the Ethernet card manual!), consult the manual, open the machine, fiddle with tiny jumpers, test the setup, repeating as often as necessary. An Ethernet card that is configurable via software might cost 50 bucks more, but it's worth it in Hair Club for Men costs alone.

It might also save networking novices some grief to mention that you need two "T" connectors, and two terminators to successfully connect two PCs via Ethernet cards and thinnet (i.e., not the twisted pair kind) cable. The Artisoft Starter kit comes with all these items.

Along the way, we had to struggle with the usual hassles of getting an ISA card to get along with the rest of the components in our test system, a 33 megahertz 486 with 16 megabytes of RAM, running OS/2 Warp. We find that this is a realistic platform for running Warp efficiently.

Why was it a challenge to plug in a network card and get it to work? Well, Billy ...

LANtastic for Mac

If you have a LANtastic network and you want to add some Macintosh action to the mix, what can you do? Artisoft has released LANtastic for the Macintosh, which uses a dedicated PC as a gateway between the PCs and Macs on the network. Note that this PC cannot be used as a workstation — it is busy being the go-between. Nevertheless, LANtastic for Macintosh is a welcome addition to Artisoft's family of products.

Artisoft Canada has also been dropping hints about the upcoming release of Artisoft LANtastic for Windows 95. According to Joe Stunkard, manager of corporate communications, and Sunil [illegible], VP software products (he developed Netware 4.0 for Novell), the company expects it to be huge whenever Windows 95 actually shows up.

The company also sells a product called Corstream. This is a server package that runs on a PC. ◻

IRQ Conflicts

IRQ (interrupt request) conflicts happen when two ISA (industry standard architecture) expansion cards both vie for the same system resource. Some cards or peripherals

➤

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LANtastic for OS/2

Continued from page **56**

require more than one IRQ, and your computer hasn't got an endless supply of 'em. As a matter of fact, they're a fairly limited commodity, as Intel-type computers have only 16 IRQs and most PCs only have about four or five of those actually available. The more expansion cards you have installed in your machine, the less IRQs are available and the greater the chance that two or more devices will argue over who gets the IRQ value. Unfortunately, when such a dispute happens, your PC either doesn't work at all, or one expansion card goes off to la-la land until you reconfigure things.

And just how do you figure out what's going on in the world of IRQs? You can run Microsoft diagnostics, which is probably installed on your PC (type MSD from a DOS prompt). This program will give you at least some idea of which resources are available on your system.

As it turned out, our test machine had a sound card that conflicted with the default configuration of our Ethernet card. (Many of the possible values in between aren't good choices, as COM ports, printer ports and other standard features of your PC hog certain values for themselves. Floppy disk drives, keyboards, mice and even your math coprocessor use up IRQs, too.) After a little snooping around with MSD, we changed the LANtastic software and some jumpers on our CNet card to specify an IRQ value of 15 and things immediately shaped up.

Aside from a few clutzy aspects to the software, it works pretty much as we had hoped it would.

Complaints? The installation and/or configuration process duplicated the icons for our local computer and network connections each time we reinstalled the software, resulting in several "486es" on our desktop. While normally this would have us smiling, we thought better of it and shredded the imposters in this case. We were also disappointed that our Macs, Windows 95, and Windows NT machines on the NTAS network all supported long file names, but LANtastic did not. ❑

Contact: Artisoft (Canadian Office), 416-213-8600

Warp Connect Coming

More than 50 percent of PCs sold today are attached to LANs. Therefore, it's not surprising that, at the CeBit conference in Europe, IBM announced its plans to release a networking version of OS/2 Warp. Expected to be available sometime this spring, the product is known as OS/2 Warp Connect and went into what the company calls "wide beta testing" on March 14th.

Warp Connect will be usable as an application server and will be compatible with Windows for Workgroups. The company says it has the necessary network transport support to run applications such as Lotus Notes, DB2/2, etc. Pricing for Warp Connect has not been announced, although IBM has revealed that it will be available on CD ROM only with images for diskettes on the CDs.

InfoWorld calls it "a four-CD version of Warp that packs a phenomenal amount of peer-to-peer, remote, and enterprise networking capability into the box. Corporate sites will love the fact that you will be able to install Warp Connect directly off the network."

IBM recommends 8 MB of memory for Warp Connect. IBM says it will continue to sell Warp without networking features, as it sees a substantial market for home users. ❑

Forms Made Easy

Continued from page **36**

and that would seem to be more than enough for any form I've ever seen. Another enjoyable find was the file compression feature that may be automatically or manually triggered at the time one's work is being saved. While specific compression levels weren't detailed, it is safe to say that a 14,515 byte file was reduced to 5,583, meaning this file was crunched to two-thirds its original size, a hard drive space economy measure that's sure to please.

Sensibly, Delrina, a business best known for its computer facsimile software, has incorporated easy access to form faxing within PerForm, and having a product such as their WinFax on board makes the whole procedure dead simple.

Although some Windows and form-building experience certainly doesn't hurt, the PerForm manual is quite solid, and the on-line help file contains several working demos on basic principles. Prospective PerFormers must have 4 MB RAM, 6MB hard drive space, Windows 3.1 or higher, and a basic mouse-like peripheral. Please remember that this is a very specific package, but for form-crazy businesses, PerForm for Windows is a high performance form formulator without peer. ❑

Contact: Delrina, 416-441-3676

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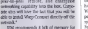

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NETWORKS

Novell Sets New Priorities

BY GEOF WHEELWRIGHT

Bob Frankenberg knows he's not the most famous chief executive officer in the personal computer industry, nor does he court the kind of media coverage accorded to arch-rival Bill Gates of Microsoft.

But the CEO of Novell Inc. the world's largest PC network software company, recognizes that the company has not always done the best job of getting its message to customers

And since taking over from Novell pioneer Ray Noorda in April of 1994, Frankenberg has worked to correct that fact, while also working to bury the hatchet with Gates and lure back Novell customers who had found themselves frustrated with the shortcomings in Novell NetWare 4.0 and NetWare 4.01

As if these tasks were not enough Frankenberg has also had to give attention to the massive task of rolling the recently acquired WordPerfect into the Novell organization (a deal which was made just before Frankenberg took over the top job at Novell) and fielding questions from the U.S. Department of Justice about Novell's deal with Microsoft to take ownership of the Microsoft Money personal finance package if and when Microsoft's deal with acquire Intuit (makers of Quicken the market-leading PC personal finance package) is completed

In the month of its first anniversary of the merger with WordPerfect Frankenberg reflects that it did take the company longer to get PerfectOffice to market that he would have liked but far less time than would normally be the case under a merger circumstance "Our competitors thought we wouldn't be seen (in the suites market) for 18 months" he says of PerfectOffice, which finally started shipping in the U.S. in the last two weeks of December

"The acceptance of PerfectOffice has been incredible In the U.S. our distributors tell us that we outsold both Lotus and Microsoft in January and that is a heck of a positive indicator of the product potential and we are getting strong re-orders. We are now a serious contender in the suite business and we had never been in it before – and I think part of the reason is our integration with the network."

Networks are of course still Novell's key business And in the network operating system sphere Frankenberg admits that he did have to speedily fix some problems when he joined the company early last year "NetWare 4.1 did take too long, as NetWare 4.0 in general took too long" he admits "When I joined a year ago NetWare 4.01 was shipping and it was unstable, had major shortcomings in the set of services (NetWare Loadable Modules) supported and NetWare 3.0 NLMs couldn't all run on 4.01 Also utilities to make use of the directory were not available and you had to do a lot of work to up[illegible] NetWare 4.0

Frankenberg recognized that this situation could not be allowed to continue if Novell wanted to maintain its hold on the network operating system software sector "We looked at NetWare 4.01 and said we need to make it stable then equally important we need to make it easy to upgrade to By the end of July we had stabilized it, included a default directory and made it work with NetWare 3.0 and got all major NLMs working and the vast majority of third party NLMs It was an extraordinary accomplishment The speed was improved significantly the utilities were made part of the product — and we got our marketing act together"

He says that Novell had been guilty of "hiding its light under a bushel" and needed to work harder to get its message out "We had kind of assumed it was a 'build it and they will come' situation," Frankenberg recalls "So we identified what we needed to do to make it (NetWare 4.1) jump off the shelf We ran much more aggressive ads Novell had let Microsoft get away with having people thinking that Windows NT was a network operating system even though it has no network directory, no multi-protocol routing no security as a network amongst a long list of shortcomings ►

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Novell NetWare 4 Sales Hot

BY JIM MALLORY

NB — Novell Inc said sales of NetWare 4 more than doubled in the first quarter of 1995 over the fourth quarter of 1994 and now represent almost 30 percent of the company's total NetWare network operating system software revenue

According to research firm International Data Corporation (IDC), NetWare 4 is the second best selling network software of all time led only by NetWare 3 which Novell introduced in 1989

Novell said that based on the latest data, it is ahead of its timeline for having NetWare 4 revenue exceed that of NetWare 3 in the second half of 1995 The company said Novell network operating systems are installed on approximately 2.5 million servers worldwide.

The company said NetWare 4 1 has three user bases, customers upgrading from earlier versions of NetWare users expanding existing NetWare networks and users installing new networks

Novell recently opened a site on the World Wide Web where users with Internet access can get the latest information about NetWare 4 The company said the Web site is receiving as many as 8 000 inquiries per day The company also produces a monthly live satellite broadcast about NetWare 4 1 that is beamed to 400 locations in the U.S., Canada, and Mexico

Novell recently released the NetWare 4.1 Software Developers Kit (SDK) Special Edition The SDK is designed to allow developers to create network applications that make maximum use of the features of NetWare 4 1 More than 800 applications are currently available for NetWare 4 1 and the company has already certified more than 45 of those as tested for compatibility with NetWare ❑

Contact Novell 800-451-5151
Internet Web address http://www.NetWare com

Novell Sets New Priorities

Continued from page **58**

Microsoft and their incredible marketing machine had people believing that NT did what a network operating system needed to do Now, they still may choose NT but they will do it in an informed way"

Frankenberg does however, want to bury at least part of the hatchet with Microsoft — at least where customers are concerned — because they were losing out badly in the much publicized tussles between Bill Gates and former Novell boss Ray Noorda

In the first three months I was here I talked to lots of customers and people who worked here and I came across repeatedly the idea that strong competition between Novell and Microsoft would result in better products" he says but added that most agreed it had deteriorated into a contest of personalities This resulted in a very unhealthy situation

"There are support problems whenever you have two products working together (such as NetWare and DOS/Windows) but people (at the two companies) would point fingers at each other and products were not being cross tested before release There was a lot of corporate and personal vitriolic name calling acrimony as well by both parties I had known Bill (Gates) for a long time and told him that we needed to address this He discussed it with me and we came to the conclusion that we should take better care of our joint customers and put in place much stronger escalation and cross-support capabilities and cross testing"

Frankenberg says the two companies now provide each other with beta copies of relevant software Windows 95 and NetWare are two examples of that

"Bill and I agreed that we would get together a couple of times a year to make sure this was on track If people in our companies got off track we could try and move it back But we still compete head to-head, day-to-day shelf to-shelf in the market" ❑

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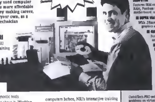

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A Pair of PIMs to Neat Up Your Life

BY GEOF WHEELWRIGHT

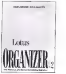
The impact of including PIMs, or personal information managers in both Lotus SmartSuite and Novell's PerfectOffice cannot be underestimated. It is probably fair to suggest that if you buy a suite that contains a PIM like Lotus Organizer or Novell's WordPerfect InfoCentral, you'll be tempted to use them, even though they may not be the main reason for your purchase But you might also think that they're not going to be as good as a high-end contact manager like Maximizer or Polaris Packrat Should you fork over still more money for a dedicated contact manager?

The good news is that unless you are into telemarketing or some other contact intensive business you will not have to go to an industrial strength organizer Organizer and InfoCentral contain most of the features that most of us will ever need to organize our contacts and schedules Let's have a closer look at these offerings from Lotus and Novell which, incidentally are also available as stand-alone products.

Lotus Organizer 2.0

From Lotus Development Canada

Suggested Retail Price $135



You would think that Lotus Organizer would already have reached well beyond Release 2.0 by now After all the product has been around in one form or another since UK-based Threadz first developed the application in 1990 and then sold it to Lotus.

But given the chopping and changing this product has seen — and its eventual inclusion in the Lotus SmartSuite set of bundled desktop office applications — it should be no surprise that it was due for a comprehensive overhaul And that's what the recently released Lotus Organizer 2.0 was all about

Despite a shaky rollout in late December and early January, when CompuServe users deluged Lotus with reports of various niggles in Lotus Organizer 2.0 the shrinkwrapped product did finally start shipping in late February and its feature set proves an instructive guide to what you would expect from the PIM product category these days.

The most heavily-touted new features in Organizer 2.0 relate to its network and electronic mail connectivity which have been enhanced to provide group scheduling for Lotus Notes and Lotus cc Mail. Lotus calls the product a "networked PIM" and boasts that it "allows easy integration of LAN-based group scheduling and daily task management features that include calendaring address keeping, notepad filing tracking to-dos and a new calling logging section "

While we didn't have an office full of network Organizer 2.0 users to give us a hand in testing this new offering, there were also enough extras included for stand-alone users to keep us busy with those

We found, for example that you can now easily set up "user control lists" which grant different levels of access to the same Organizer file. This means that if you have a number of people sharing the same PC — or sharing some Organizer information over a

Continued on page 62

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A Pair of PIMs

Continued from page ***60***

network — you can set up Organizer 2.0 to allow other users to see only parts of your Organizer And you can customize Organizer so that different users would be given access to different parts of the file

As a longtime Organizer user, I was happy to finally see Organizer 2.0 adding in some long-demanded features such as the ability to see a 30-day calendar view to book conflicting and overlapping appointments (which we can then resolve at our leisure) and to attach files when scheduling meetings over a network with other people (i e here's the document I want to discuss at our meeting)

If you use Organizer 2 0 with the other applications in Lotus SmartSuite you ll notice a much better level of integration with Approach Ami Pro, Lotus 1-2-3 and Notes. While only four of the main pull-down menu headings (File, Edit View and Help) are consistent with the other Smart-Suite apps most of the SmartIcons are now the same

In addition there are now tighter links within the various parts of Organizer 2 0 itself Using the telephone call feature, for example you can list and display both incoming and outgoing calls by name, date company category or status It is finally linked properly to the address book so that you can make full use of the data there

Given our ever-expanding ToDo list, it was useful to see some improvements here with the ability now to schedule repeating tasks to actually specify completion dates (known as deadlines in our business) on screen and to display your to-do tasks by priority status date or category

In the address book, we welcomed the sight of both home and business address records for each contact as well as the ability to properly customize fields And in the planner being able to see both yearly and quarterly views of your schedule — and put in overlapping events — does provide you with a much more accurate roadmap of your working life

There are also a couple of dubious improvements that didn't seem to actually add much to the package In the Notepad, for example you can now view pages by page number by creation date alphabetically by title or by category If you are a particularly organized individual, then this might help you. But if, like most of us, you live a more "freeform" existence and expect packages like Organizer to help organize you — rather than the other way around — these features won't make much difference

Meanwhile, the fact that you can now organize anniversaries by year month, category or by zodiac sign is also unlikely to cause a major rift in the fabric of life If you don't know the major anniversaries in your life by now then you ll probably be hard pressed to even remember to enter them into Organizer 2.0

As a whole, we were quite impressed with Lotus Organizer 2 0 It offered a lot of improvements to the previous version, provided a tighter set of personal information management tools than ever before and still gave us the most sensible metaphor we have yet seen for any product that seeks to replace the daytimer and desktop diary

Contact Lotus, 416 979-8000

Continued on page ***64***

The PDA Connection

Finally you can add the impact of growing demand for personal digital assistant (PDA) connections into this potent mixture of market changes. PDAs such as Psion s Series 3a, Apple s Newton MessagePad and the Sharp Zaurus, all offer many of the same functions as desktop PIM applications - and as these products become more mature and start gaining a broader user base, there will be greater pressure for strong links between PIM packages and PDAs After all who wants to try and maintain two name and address databases, two calendars, to-do lists, network directories and so on?

To date, the only really effective solution for users who wanted a strong PDA/PIM link was to choose a PIM hardware solution that was PC-compatible. There are, however, only a couple of such devices on the market and they are expensive to use simply for running your PIM system.

That is changing, however, with the arrival of file transfer software for devices like the HP-200LX and the Psion Series 3a that allow these machines to easily exchange data between palmtop and desktop PIM suites

At any rate some form of link between PIMs and PDAs will undoubtedly become a much greater issue for PIM developers PDAs may not yet be the mass market solution that everyone would wish but most market analysts agree that it is only a matter of time before the right product at the right price-point will finally crack this market. ❑

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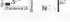

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A Pair of PIMS

Continued from page ***62***

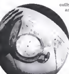
Novell WordPerfect InfoCentral

From Novell
Suggested Retail Price $179

InfoCentral is radically different from Lotus Organizer in overall design. It is more a system for relating bits of information to one another than it is an electronic version of a diary/datebook or address book. As befitting a product from a network company (Novell), InfoCentral worries as much about the connections between bits of information (which it links via something dubbed "iConnect" technology) as it does about the information itself.

It is thus an "object oriented" PIM where your personal information is treated as a series of related "information objects." And that information doesn't have to be created in InfoCentral. You can use this product to manage information stored in word processors, spreadsheets, databases, presentation programs or any other Windows application.

Using this iConnect technology, InfoCentral "intelligently connects" information about people, places, things and events, then sorts the information into an outline. All the information in an outline can be connected with related information according to specified relationships and from multiple viewpoints. This enables you to get information in the same way you do when thinking, by associating people, places, things and events until you arrive at just the information you were looking for.



Personally, I found the whole thing was a little more confusing than the traditional PIM at first, but was ultimately a great deal more useful. Don't get me wrong — InfoCentral does includes a full personal organizer with a calendar, "to do" lists and an address book, but its uniqueness comes from the way it lets you connect all your information using iConnect techoology, display information with an easy to use interactive outline, and import information from and pass information to any Windows application. It comes with four "iBase" (the name InfoCentral uses for its database files) information bases and provides nine templates for organizing information.

Ultimately, this is a product for someone who wants to put a bit of work into their personal information management. It is not for the fainthearted, and anyone wanting a glorified address or contact book should stick to Organizer or a similar product. ❑

Contact: Novell 800-451-5151

Internetworking Hot, Study Reports

NE — International Data Corp (Canada) Ltd.'s latest annual study of the Canadian information technology industry confirms trends that have been evident for several years. Sales of large computers are dropping while those of personal computers rise, and internetworking devices such as hubs and routers are the growth leaders in the communications field.

Overall, IDC Canada said, the Canadian information technology industry grew 6.7 percent in 1994, to reach $19,040 million.

The single-user systems market dominated the computer hardware business again in 1994, growing 7.7 percent to $3,146 million.

Meanwhile, sales of large systems, or mainframes, dropped 10 percent in 1994 to $540 million, and sales of medium scale systems dropped 4.2 percent to $565 million.

Routers and hubs were the hot sellers in the data communications market, outweighing declining sales of multiplexors and packet switches to produce overall growth of 29.9 percent in this segment in 1994. The category, which also includes frame relay devices and concentrators, totaled $555 million in 1994.

The software and services market in Canada grew 10.9 percent in 1994, reaching $7,244 million. The highest growth was in packaged software, at 14.5 percent, while processing services grew only 1.1 percent and professional services chalked up an 11.6 percent increase in sales. ❑ – Grant Buckler

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SPROING!

BY JEFF EVANS

IBM's Thinkpad 701C combines desktop PC power, a full-sized keyboard and a big screen, all in a tiny package. But you're NOT allowed to call it a sub-Notebook!

We'd heard some buzz in the computer trade press in recent months about a new IBM notebook code-named "Butterfly." It was supposed to have something special about it. There were garbled tales of a fold out keyboard that allowed it to be smaller than a regular notebook while still being comfortable to work with. The reality behind these rumors has been revealed in the form of the ThinkPad 701C (the more evocative "Butterfly" brand name is owned by someone else in the US, and won't be applied to the shipping product, alas). The 701C, by any other name, is still a very nifty little computer.

Surprise!

A flying squad of IBM'ers came through *The Computer Paper* offices in Toronto, to lay the 701C in front of us. They pulled out a very small (9.7" x 7.9" x 1.7"), light (4.5 pounds), black notebook, and with a flourish, opened the lid.

As the lid lifted up, things started moving inside. The left hand side of the keyboard slid smoothly out to the left, past the edge of the case about an inch, and locked into position, while the right side of the keyboard moved down towards the bottom of the case, and to the right about an inch. The two sections of the keyboard interlocked like pieces of a puzzle coming together, and, voila, there was a full sized computer keyboard, having popped out of a subnotebook sized case. This expanding keyboard, called the "TrackWrite", looks so simple that it's hard to imagine why nobody else ever thought of it before.

As with other ThinkPads, the cursor is controlled by a little red button nestled between the "G", "H" and "B" keys. This device is the TrackPoint III, the latest generation of a pointing technology licensed from Lexmark, a former division of IBM. This version of the Track Point III features newly rewritten code from IBM and a "cat's tongue" high friction coating. Together, they make this little cursor control stick exceptionally easy to use.

The Big Picture

The next thing I noticed was the size of the screen (10.4 inches). It takes up almost the entire inside area of the lid, with less than half an inch of border on the top and right, and about an inch on the left and at the bottom hinge. Upon turning the unit on, the system booted up very quickly into Windows, and we began to investigate it. The first thing we did, of course, was open and close the lid numerous times to figure out how the interlocking keyboard trick worked.

The IBM rep said that the engineer who figured out this wonderful gimmick worked out the basic principle using a photocopy of a keyboard, which he cut into pieces and moved around until he got it to work. The ➤

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Sproing!

Continued from page 65

keyboard is extremely solid, having been reinforced so that you can lift up the computer and move it around by holding onto the "wings" that hang out over the edge of the case. The keyboard, which is made by Lexmark, is quiet and comfortable to use.

According to IBM, the durability of the interlocking keyboard design has been tested by robots which opened and closed the lids of test units tens of thousands of times each. The case is also extremely sturdy and protects the big bright screen and the rest of the unit.

And Smart Power Management, Too

Unfortunately, I didn't get much hands-on time with the 701C right away: it went to another reviewer at the conclusion of the interview with the IBM reps. Six days later, though, it was returned to the office at the end of the day, and I took it home. The next morning, on the GO train into the city, I took it out of its very nice carrying case and opened it up. It had been left powered on by the previous user.

The screen was fully lit, and Windows was running by the time I got the lid up. A little onscreen battery life indicator showed 93 percent power. The unit had been left on for the better part of a day at least, and had lost only seven percent of power.

No, this isn't a breakthrough in battery technology at work here, but a power management feature we've also seen on other ThinkPads. A sleep mode allows you to place the ThinkPad in suspended animation, RAM contents being kept alive for up to a couple of days by a thin trickle from the battery. The computer comes back to life instantly when the cover is opened.

Thus, on the 701C the screen was fully lit, with all the windows up, before I could get the lid up. This is a lot more convenient than the power saving modes on some older notebooks, which require a long powering up sequence. With the ThinkPad, it's possible to just close the lid, leave it for a day or two, open the lid again, and instantly resume work, without having lost much power.

In a way, this is doubly necessary because the battery chosen for the 701C is not leading edge technology — it's only so-so. It's made bearable by the power saving smarts. (The ThinkPad also has a hibernation mode that lasts for weeks. A picture of the RAM contents is copied to the hard drive, then recopied back to RAM when the unit is powered back up.)

In active use, battery life for this unit is around 3 hours. For example, I started tapping away, writing this article, and over the course of the hour and 10 minute train ride, with heavy constant use of the keyboard and hard drive, and the screen at maximum intensity, I used up almost 40 percent of the remaining battery charge.

Features and Layout

IBM is adamant that the 701C is not a subnotebook. This is in line with a general trend away from the subnotebook throughout the PC industry. Below a certain size, subnotebooks encounter heavy resistance from users (particularly men with large hands and fingers) because the keyboards become too small to use comfortably. Also, sub-notes typically have smaller than usual screens which are hard to read.

The combination of these two features, in some users' opinions, makes subnotebooks tiring and less productive to use. A few manufacturers, such as Samsung, Toshiba and Ambra, still carry subnotebooks in their lines, and report that they sell steadily to a certain segment of the market (mainly people such as my wife, who have small hands, or those for whom lightness and compactness are crucial). In general, however, the market seems to have voted strongly in favor of comfortable keyboard size and big-as-possible screens.

There's more to the 701C than the "butterfly" keyboard, though. The 701C is intended to compete directly with mainstream notebooks in terms of having true "Desktop PC" power, and IBM wants to avoid the association of subnotebooks with sub-par performance compared to full sized notebooks. The 701C, in fact, is incredibly well designed in terms of the power in its small case.

The current line of 701Cs are based on Intel 486 DX2 50 MHz and DX4 75 MHz processors, and also have an internal Digital Signal Processor (DSP) that powers high quality 16 bit Sound Blaster compatible audio, telephony and an internal 14.4K data/fax modem. The internal modem means, in effect, that the user has an extra PC Card slot available.

The 50 MHz models come with 4 MB of RAM standard, expandable to 20 MB. The 75 MHz models come with 8 MB, expandable to 24 MB. In an interesting aside, when we asked if IBM was going to start making notebooks based on the PowerPC chip, the IBM

Continued on page 68

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Sproing!

Continued from page **66**

reps clammed up and said "We can't talk about that." Apparently, PowerPC based Windows notebooks are not far off!

To continue, the base unit has two Type II PC Card slots (or one Type III), an infrared communications file transfer transceiver with 115Kbps capability, an external 3.5-inch floppy drive (the floppy drive port can be converted to a parallel printer port by means of an optional cable), and a 160 pin expansion bus port for a MultiPort II port enabler. The MultiPort II is an add-on component (included) that gives the user serial, keyboard, and mouse connectivity, and SVGA (up to 1024 by 768 by 256) video output.

The battery is an internal Super NICD rechargeable. IBM suggested that one factor leading it to avoid Lithium Ion batteries was the limited and less reliable supply of lithium batteries. The memory of the Great Screen Shortage, which hampered early ThinkPad sales, apparently still lingers. The external AC power adaptor is very light, and well designed. Battery recharge is faster than battery discharge, taking as little as 1.5 hours.

The system comes with a 3 year warranty with International Warranty Service, Easy Serv courier warranty service, and a toll-free HelpPC line. Hardware options include a desktop docking unit and a variety of hard disk and RAM expansion options and PC Cards.

Software
IBM has pre-loaded a host of software on the 701C, including Lotus organizer, Lotus ScreenCam, Triton Co-Session Host, AudioFile TalkWorks, Second Nature Screen Saver, AlphaNet FollowFax, Asymetrix COMPEL and many others. The system comes with IBM PC-DOS 6.3 and Windows 3.1 as well. IBM may be offering OS/2 Warp on some of its ThinkPad offerings in the near future.

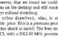
The ThinkPad 701C is an extremely impressive tool for mobile computing. Whether you call it a subnotebook or not, it is the smallest and lightest full function personal computer system we've encountered, displacing the HP OmniBook 600 from our hearts as the market leader in no-compromise portability.

Downsides to the 701C would seem to be few. One ergonomic flaw is the lack of a palm rest for the user's hands to rest on while typing. There simply wasn't room for it in this very compact package. The unit is so thin, however, that we found we could rest our palms on the desktop and still reach the letter keys without stretching.

The other drawback, alas, is more intractable: price. This is a premium product, with sticker shock to match. The base model, the 701CS, with a DX2-50 MHz processor, 4 MB of RAM, 360 MB hard drive, and 10.4" DSTN dual scan screen, has a suggested list price of $5,799. The top of the line model 701C, with DX4-75 MHz, 8 MB RAM, 540 MB hard drive, and 10.4" TFT active matrix screen, lists for $8,799. For the serious mobile professional, though, this is the dream machine for the spring 1995 "bragging rights" season. ❑

Contact: IBM Canada: 905-316-3602

RAVEN'S SPEEDY PRINTER • ServiceWorks Distribution Inc. has the Raven LS-3 Windows printer, which allows the host computer process the image first then sending the print job to the printer. The company says this allows the Raven to print more than three times faster than a PCL4 printer and up to 11 times faster than a Postscript printer for first page print out speed. Another benefit of the design is that when the host computer's power and/or memory is upgraded, there is a proportional increase in the performance of the LS-3. The LS3 is rated at a steady 6 page-per-minute output.



The LS-3 offers other features that improve speed, enhance output and reduce consumable consumption. The GDI mode, which can increase printing speed four to five times faster than conventional lasers, also allows for contrast and brightness control and photo enhancement. EET (Edge Enhancement Technology) increases the print out resolution smoothing jaggies. The LS-3 also has a toner saving mode, much like a dot matrix draft mode, which extends the effective life of the toner cartridge, and is a 'green' printer, with an automatic power saving function that reduces energy consumption during idle periods.

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Canadian Geography Revealed

Where The Heck is Picture Butte?

BY PEDRO AOOAIS

Title	Canada GeoGraph II
From	MECC
Price	$59.95/ School ver $89.00
Recommended ages.	9 to Adult
System Requirements	Mac Plus or later System 6.0.7 or later Hard Disk color monitor 1.5 MB memory (4 MB for System 7)

What do you think would happen if your son or daughter came home one day and casually asked, "Which province has the 15th largest economy in the world?" As your mind went blank and you started to stammer, your child would seize the opportunity and continue: "How many provinces were there in Canada at the start of the twentieth century?" For most of us questions like that make us look for a nearby chair and prepare ourselves for a long stay in the reference section of our local library

Most of us are probably more aware of what OJ had for breakfast today than the mundane facts about our own country That is, unless we have a copy of Canada GeoGraph II loaded on our trusty Macintosh waiting for these relatively simple questions MECC, a leader in the field of educational software for the last 20 years, worked with Virtual Reality Systems Inc. in Richmond, BC to develop this electronic atlas focusing on Canada Packed with maps charts, graphs and an in-depth database, this program is guaranteed to keep you up late exploring the history geography and fascinating facts of our home.

You can find data such as energy consumption, income per capita educational expenses, agricultural data, and much more You can then display the fruits of your labor with bar graphs pie charts, scatter graphs or map displays – whichever you choose

Canada GeoGraph is based on two other MECC programs USA GeoGraph II and World GeoGraph II If placed together in the same folder on a Macintosh where the three interact with each other, the programs can share maps and data The downside to all this data at your fingertips on two floppies is the difficulty for younger children to keep up their interest let alone master the program The program is rated nine to adult and I concur

Grade five and six students (all the unsung heroes) at Tillicum Elementary School in Victoria who spent time on the product reported it to be "good, easy" when presented with the program in a sequential lesson format that is to say (the lessons that MECC supplies with the product) "The guidebook is extensive but sometimes unnecessarily wordy " commented Mrs Broderick, their computer whiz She was especially enthusiastic about the Canada Scavenger Hunt, which contains questions like the ones posed at the beginning of this article.

The Scavenger Hunt encourages the students to find answers logically through cross-referencing data found in the program A good base for the children s understanding is built by especially detailed introductory lessons dealing with subjects from how to startup the program all the way to searching a database and viewing data

It is really a shame that this product is not one of the programs you would likely find on the shelves of your favorite software store You either must special order or acquire it directly from MECC Either way, you will never regret knowing about your country, and will eventually be confident enough to ask your child (casually) "What is the ranking of New Brunswick in income per capita in Canada?" Then it will be your turn to smile and his or hers to hit the floppies.

(By the way Picture Butte is a small community in Southern Alberta, northwest of Acadia Valley — Ed)

Contact: MECC 1-800-685-6322 ext 528, represented in Canada by Software Plus, 800-863 7731

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OH CANADA!

Touring Canada by CD

BY PEDRO ARRAIS

Title: Adventure Canada
From: Virtual Reality Systems Inc
Price: $99 95 (street price approx: $75.00)
Recommended ages: 8 to 15
System Requirements: Multimedia-capable Windows PC or Macintosh

If you have ever had (or have) children, you can relate to this fact: you are always comparing them to each other marveling at the fact that in each are the same set of genes but wondering why some days they are so different from each other

The same thought came to mind when I compared Adventure Canada a slick multimedia tour of Canada from sea to shining sea, to Canada GeoGraph II Although Canada GeoGraph II is a Canadian database and encyclopedia, it falls short when it comes to presenting that data in an exciting manner Enter Adventure Canada which is rich in video clips and pictures but short on data if you are looking for answers for a school project

Adventure Canada is akin to a great collage of images of sight and sound that makes the true diversity of the country come across the screen Its strength is the way that different voices and images impart a sense of local pride from Victoria to St John s. Unlike Canada GeoGraph a structured learning routine is not necessary and any child able to move a mouse can navigate to the province or territory and even zoom into individual towns and points of interest.

The video clips were developed with the cooperation of Tourism Canada as well as local tourism organizations and they look great (some look more like commercials than others) Be that as it may the 72 clips represent about two hours of viewing and cover points of interest encompassing the country

Along with 300 color slides they cover the natural beauty that this country has in abundance Too bad that after these multimedia presentations there is a general lack of audio feedback to keep the program lively (even some music would have been nice) Apart from the usual location of cities people wishing to explore Canada s outdoors can find the location of every Parks Canada (another contributor of information and videos) site easily Too bad the Provincial parks were not included, too

The images of Canada and the provinces are from actual satellite pictures but finding your way to these parks might be a bit difficult as the program overlays roads in black on a dark screen obscuring them Ditto for the longitude and latitude overlay A color map would have been a better choice

Despite these limitations Adventure Canada would definitely be the choice if one had to choose a multimedia ambassador to send out to the rest of the world Its ease of use and the overview of the best that this country has to offer sets it apart from databases that impart cold hard facts As such, it serves as an excellent companion to programs such as Canada GeoGraph to paint a human face to our proud country These programs are definitely not twins but they are cut from the same cloth We can be justifiably proud of them both ❑

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CD REVIEW

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BY KEITH SCHENGILI-ROBERTS

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System Requirements: Multimedia PC 386 or higher processor, 4MB RAM, 2MB available hard disk space, Windows 3.1 or later, and a mouse or compatible pointing device
Price: $127.70

Canada's Visual History CD-ROM is a joint effort between the National Film Board of Canada, the Canadian Heritage Information Network and the Canadian Museum of Civilization. The CD-ROM contains 80 volumes of subject matter in both English and French, along with over 2,400 archival images of Canadian history, ranging from photographs to paintings and newspaper illustrations. All of this notwithstanding, the CD-ROM does not utilize multimedia capabilities to the fullest.

Installing the CD-ROM is easy, and it takes up just over 2MB of hard drive space. There is also an option to run the program completely from the CD-ROM, and while this is noted in the README file that accompanies the CD-ROM, there is no easy installation option. Once the program is launched, you will find yourself in a very Spartan looking user interface. The introductory dialog brings up a list of the volumes of subject material covered in the CD-ROM. They range across time, geography and subject matter. You can look at the growth of Winnipeg as a city, discover Canada's role in the Boer War, or investigate the war between the French and the Iroquois.

The text that accompanies the pictures (in both French and English) is top-notch, and will be of use to any student of Canadian history. There are convenient Windows-buttons placed at the top of the display to allow anyone to clip or print text and images from the program for use elsewhere.

While the CD-ROM is full of information, its producers have not fully utilized the educational potential of the CD-ROM medium. The interface is flat and dull, and is more suited for the determined academic than for the casual browser at home. The information contained within this CD-ROM is excellent, but most people should hold off until the next revision so the developers can shake out the user-unfriendliness of this CD-ROM's interface. ❑

Contact: Fitzhenry & Whiteside (905) 477-9700

ON CANADA

Developer Focuses on Canadian Ed-ware

BY PEDRO ARBAIZ

Social Studies teacher Gary Gumley looked at his class one day in 1984 and saw the future. He saw the beginnings of a trend towards computers in education and decided to do something about it.

Eleven years later, we see Gary as the President of Software Plus, a distribution company that supplies dozens of software titles to approximately 12,000 schools across Canada. Along the way he persuaded educational software giant MECC (one of his suppliers) that there was a market for a program that focused solely on Canada, instead of treating it as an addendum to the US.

MECC agreed and adapted their successful GeoGraph platform to create Canada GeoGraph II. It can run on its own, but if placed in the same folder as USA GeoGraph II or World GeoGraph II on a Mac, will interact with them. A powerful database, coupled with formidable cross-referencing and flexibility, has made this title an endearing one in the 150 school districts in Canada and the US that hold site licences. That title was released back in September 1993, and was the first of its kind in the market.

Not content to rest on his laurels, Gary has gone one step further by starting another company, Virtual Reality Systems Inc., and has released his first multimedia CD-ROM title, Adventure Canada, in cooperation with Heritage Canada, Parks Canada, Tourism Canada and provincial tourism ministries. It is available on both Mac and Windows platforms this time.

Although developed with the educational market in mind, Gary sees potential for the product as an awareness tool that can be used in the growing tourism market. "It lets people explore our country beyond brochures," states Gary. The package took 18 months to complete, with lavish multimedia the primary focus of his design team. Extensive use of leading edge Quick Time movies as well as Photo CD slides mark this ambitious title. It also features multimedia hooks built in so it can interact with Canada GeoGraph, which lacks any multimedia features but is a superior database. Gary hopes the two hours of video as well as 300 slides will encourage the family to take a virtual reality trip across the country from the comfort of their den.

Adventure Canada took the first place award at the Canadian Academy of Multimedia Arts and Science 1994 Digital Media Awards, Education Category and was runner up in the new development category of Macromedia's 1994 awards. Ontario's Ministry of Education has recently bought a site licence for Adventure Canada, with the potential placement of thousands of copies in all of its schools. Sales in other provinces have been encouraging, too, with more than 1,000 units delivered to different schools to date. ❑

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GAMES

Space, The Final (Desktop) Frontier

BY KEITH SCHENGILI-ROBERTS

Title Space Simulator 1.0
Manufacturer Microsoft Corporation
System Requirements: MS-DOS 5.0 or later, 386/25 or higher microprocessor (486 recommended), at least 550K of conventional memory and 768K of expanded memory, 9.6 MB free hard drive space, and a 256-color VGA or higher resolution color monitor. A mouse and a sound card are recommended
Price $64.95

Flight simulators have been around since the dawn of personal computing. Computer simulations involving space have either been simplistic lunar landing-type programs or unrealistic quests in search of bug-eyed monsters to blast back into the interstellar ether. With Microsoft Space Simulator you can fly a realistic spacecraft to the stars from the safety of your own computer.

Space Simulator was created for Microsoft by the Bruce Artwick Organization, the development team responsible for Microsoft's best selling Flight Simulators. The project was plagued by numerous delays in getting this software to market — Space Simulator was originally scheduled to ship last summer — but the wait was worth it.

A Digitized Universe to Explore

When you launch the program, you find yourself in Earth orbit, peering down upon our world and a slowly revolving space station hanging above it. In Space Simulator you have an entire digitized Universe to explore: you can explore the Andromeda galaxy, the hypothetical black hole at the core of our galaxy, the dazzling nebula in Orion or one of the moons of Jupiter. Space Simulator offers a variety of different spacecraft for the would-be cosmic traveler. You can take a ride on the Space Shuttle, or fly any of a number of fictional spacecraft, from fusion propelled craft to a Bussard Ramjet (an idea lifted from science fiction stories of the 1950s) to an alien spacecraft powered by a mysterious anti-gravity drive.

The controls for the craft, once mastered, are relatively easy to operate. Simple thrust and rotation controls make initial excursions into the void easy. When you venture forth in Space Simulator, you take the laws of physics with you. It was a pleasure to see a section in the manual dealing with Newton's First Law of Motion, which states that "a body continues at rest or in uniform motion in a straight line unless acted upon by some force." In other words, when you accelerate, you do not slow down because there's nothing in space — save for the occasional planet or star — to slow you down. So when you decide to travel to a distant celestial object, make sure you have enough fuel for braking maneuvers so that you don't zip past it.

You can do all of this in real time if you want to. But for people who don't want to wait the several million years it takes to get to the Andromeda galaxy, you can also cheat physics by using the Location setting, which lets you instantly "jump" from one location to another. You can also alter the flow of time so that one second for you can creep by at anywhere from 0.001 seconds per second, to over 8,000 years per second. If you can't get the hang of using gravity to your advantage, you can use the Slew option to negate its effects and allow you to glide effortlessly by a black hole.

Of Quirks and Quasars

Rumor has it that this will be the last DOS release from Microsoft before they launch Windows 95 sometime later this year. This is probably just as well, as the program requires large contiguous free blocks of memory in order to operate properly. When you are installing the program, you will be given an option to create a boot disk for your computer in an effort to free up as much memory as possible upon start-up. This is highly recommended, because if you do not select it initially, you will have to run SETUP again in order to get back to the create boot disk option. In some cases, the boot disk will not be enough and you may have to do further rigging of your computer's memory to get the program to work. Digitizing a Universe also exacts a premium when it comes to hard drive space — almost 10 MB of free space is required

➤

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BOOK REVIEW

Guide to Adventures in Space Simulator

Title	*Adventures in Space Simulator: The Ultimate Desktop Astronaut's Guide*
Author	Grant Fjermedal
Publisher	Microsoft Press
Price	$29.95
Details:	Softcover 244 pages 1994
Reviewed by	Keith Schengili Roberts

The manual for Microsoft's Space Simulator is fairly well written and makes for a good introduction to space flight. But it does not go into the type of detail some people might like. Author Grant Fjermedal, best known as a science writer, had the opportunity to meet with the creators of Space Simulator and find out what they thought was "cool" about the program. If you want to get the most out of Microsoft Space Simulator, this book is a good place to start.

The book starts out with the basics of spaceflight and points out that anybody already familiar with Microsoft's Flight Simulators will find it easy to get used to the controls in Space Simulator. Once you've mastered the art of maneuvering in space, you're off to try a few test scenarios to test your piloting skills, which will guide you to some of the most picturesque parts of the digital Universe within Space Simulator.

Kids will get the biggest kick out the book, and while the manual for Space Simulator may not inspire them, this book certainly will. The book's dazzling color pictures of the cosmos are often accompanied by background facts dealing with some of the wonders of the galaxy, sneaking in some education along with the fun. There are also tips on great places to explore, like the mysterious planets orbiting Polaris, the North Star, or buzzing the cargo bay of Ring Station 1. There are plenty of suggestions on how to get the most from the simulator.

While a copy of this book is not vital to your enjoyment of Microsoft Space Simulator, the behind the scenes peek at the development process, along with the facts behind the real objects you can explore in this digitized Universe, can only enhance the the experience. ❑

Contact: Macmillan Canada (416) 293-8141

Space... the Final Frontier

Continued from page 74

by Space Simulator

The program definitely has its quirks, though these seem to be related to ways of keeping memory-usage down. If you fly to the Pleiades group of stars, you find yourself getting closer and closer to them and then immediately pass through to the other side. Many of the more picturesque celestial objects in this Universe appear as flat planes with no dimension to them. They are obviously digitized 2-dimensional photographs that have simply been hung like a picture on an invisible wall in this digitized Universe.

There is also no way of intentionally crash landing your spacecraft on the planet or other celestial body of your choosing. This makes landing the Space Shuttle or Lunar Lander something of a farce. Turn on the engines, point yourself straight at the ground, and you'll still land intact — after a few bounces. It can also be somewhat disconcerting when you choose to orbit Saturn, leave your simulation running for a while, and then find yourself orbiting inside the planet when you return.

One other drawback — which will likely be taken care of in future add-on modules — is there is no easy way to add to the universe you fly through.

Despite the steep requirements on system resources, Microsoft Space Simulator is a great way to travel through the Universe. ❑

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GAMES

Playing Games With Your (PC's) Memory

GORDON GOBLE

I think Barbra Streisand said it best — "Misty water-colored memory, such a pain in the rear" or something to that effect.

If you've got a game that refuses to run there's a darn good chance you're experiencing troubles with your computer's memory configuration. Even if you're the proud owner of a RAM-stuffed Pentium, it just won't matter if your memory isn't configured properly. Computer freezes, blank screens, sudden reboots — the symptoms are almost too numerous and frightening to mention.

Adding to the headache, most games inevitably have their own specific memory requirements. This one eats up expanded, that one feasts on extended, and some (like the Falcon 3.0 air combat series, for instance) need an incredible amount of conventional as well. It's enough to make any red-blooded game player run for cover.

Fortunately, there are ways around the trials and tribulations of memory hassles, but you've got to know some of the basics first. Without going into great detail, most memory problems come about when peripheral devices such as mice (mouses?), soundcards, CD-ROMs, and the like gobble up too much of the computer's base 640K of lower conventional memory (that 640K figure is unfortunately a DOS standard, and is the same on every machine).

Actually, it's not the devices themselves, but their drivers (software interfaces that tell the computer how to communicate with each peripheral) that are at the root of the problem. Suffice it to say that if you've got a game that needs 590K conventional memory, and 70K is being used by device drivers, you've got 20K worth of aggravation.

In searching for a solution, there are really only two places you need to look. Here, in the venerable AUTOEXEC.BAT and CONFIG.SYS files, everything to do with memory organization is cryptically spelled out in plain Computerese. This is where the little monster receives its loading and memory allocation instructions each and every time it's fired up. And here is where you want to attack the problem — at the boot.

The object is to free up conventional memory, expanded memory, or convert everything to extended memory, depending on the specific game requirements. Let's examine the best corrective measures.

Boot Disk

This is a quick and often game specific solution wherein the computer boots from the files on a custom configured floppy rather than using the more permanent versions of these files contained on the hard drive. Ideally, the boot disk will contain a simplified CONFIG.SYS and AUTOEXEC.BAT with just the information and drivers necessary to run a particular game, along with other necessary system start-up files.

Personally, I've become a boot disk aficionado of sorts, with a selection of at least a dozen, each labeled with the name of the game they run. This works OK for me as I inevitably keep most games on my machine for no more than a few weeks before they're dele... uh... sent to a better place.

Unfortunately, for serious gamers, creating, storing, and keeping track of whole flocks of boot disks, while having to reboot and insert floppies every time a new game is played, may become annoying over the long haul.

Some of the better programs out there come with ready-made boot disk creation routines in their installation procedure, but most do not.

To make your own boot disk, format a floppy in your boot drive — probably Drive A. — then type SYS A. at the C: prompt. This transfers system information to the diskette. Copy your AUTOEXEC.BAT and CONFIG.SYS files to the floppy, and then edit them to your liking.

Use a simple text editor like Notepad or Sysedit in Windows, Edit in MS-DOS or E in IBM PC-DOS, or OS/2 Enhanced Editor or System Editor in Warp. If you use a word processor be sure to save as plain text.

If the game doesn't support a mouse, remove any line with a MOUSE reference. If it runs in DOS, delete the Windows' SMARTDRV.EXE line (this is the sole alteration needed to run many games, such as Papyrus' NASCAR Racing). If it isn't a CD-ROM game, remove any notation to do with CDDRV or MSCDEX (CD driver), etc. Each system and game situation is different, so other decisions must be left up to you.

Note: the BIOS in most PCs is set up so that the computer first polls the A: (floppy) drive, then the C: (hard) drive for bootup instructions. If you've changed the setting so that the C: drive is polled first, your boot floppy won't work unless you change the BIOS setting back.

Batch Editing CONFIG.SYS and AUTOEXEC.BAT Files

If the possibility of lost boot disks make you cringe, you may prefer simply editing the files on the hard drive. Rather than going through the hassle of typing EDIT AUTOEXEC.BAT every time you need to modify this all-important file, batching is a whole lot easier.

I use two quick batch files all the time: A to edit my AUTOEXEC.BAT and C to modify my CONFIG.SYS. It saves just a few keystrokes, but when you're constantly revamping the computer start-up procedure, it comes in pretty handy. By the way, when editing, remember that a simple REM (Remark) at the beginning of a line will instruct the computer to ignore that line's contents, meaning you won't have to permanently delete anything. In this way, errors won't be life-threatening.

➤

Oh and a word of warning: Don't start fiddling with your AUTOEXEC.BAT and CONFIG.SYS files without first backing them up and then ONLY if you absolutely positively know what you're doing.

Multiple CONFIG.SYS and AUTOEXEC.BAT Files

Assuming you know your way around a batch file, try this little technique:

Start by renaming your CONFIG.SYS and AUTOEXEC.BAT files. For instance, if you're smoothly running Windows with your current set-up files, rename them with a .WIN extension. Then create new ones that'll load only the device drivers you absolutely need for a given type of memory requirement (using a memory manager like QEMM 7.5 will help to optimize the settings). Restart the computer and road test the new files. If they work, rename them appropriately (i.e. CONFIG.EMS for extended memory) and start on some new ones. In the end, write a quick batch file that instructs your machine to rename the files with the new extensions back to .BAT and .SYS.

DOS 6.X Multiple Configuration Files

Recent DOS releases permit the creation of a "boot menu," essentially merging all the start-up configuration files you want into one all-encompassing CONFIG.SYS and AUTOEXEC.BAT. When the computer is started, it's merely a matter of pick and choose.

Although this feature is documented in the DOS 6.X manuals, the description is in typical Microsoftian English, leaving much open to interpretation. Therefore the initial set-up may cause some undue pain and discomfort. But if you stick with it, you'll have a more or less permanent option-filled start-up procedure that will cover just about every base.

Alternately, there's a little program from Mad Mouse Development in Calgary called The Game Doctor that essentially does the multiple configuring for you in a much faster time frame (just a couple of minutes). It will provide you with settings for Windows, DOS, Expanded and Extended Memory based Games, while also allowing you to tailor your own AUTOEXEC.BAT and CONFIG.SYS. Be forewarned that it will create some absolutely huge start-up files, but does so to make sure it's got everything covered. The included uninstall feature will remove the Game Doctor from your hard drive, but will not return your AUTOEXEC.BAT and CONFIG.SYS to their original state, so make sure you print out your originals before installation. Call (403) 271-6664 for more info on The Game Doctor.

Conclusion

Lastly, here are a couple of miscellaneous recommendations:

- Doublespace, Stacker, et al. will increase your hard drive capacity, but they also take up a bunch (15K plus) worth of memory. They'll also slow your machine down, and have been known to crash land.

- Be careful when using Memmaker to free up and modify memory (and never use it when running a DOS 6.X multi config boot menu). It may do more harm than good, and with a little practice you'll be able to do the job better than it does.

➤

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Multiple Configuration

Here's a somewhat generic CONFIG.SYS and AUTOEXEC.BAT. Note that the first three lines in the CONFIG.SYS are merely notations made by the user as to which section does what. Cross-referencing the following information with the instructions in the DOS manual should help you on your way.

1. CONFIG.SYS

```
MENUITEM=EMSCD Standard Configuration Expanded
  Memory with CD.
MENUITEM=WINDOWS Best Set-up for Windows
MENUITEM=XMS Extended Memory Setup (NASCAR
  DOOM) No CD-ROM.

[EMSCD]
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE RAM HIGHSCAN I=B000-
  B7FF
DOS=UMB
FCBS=4,0
DEVICEHIGH /L:1,10848 =C:\SB16\DRV\CSP.SYS
  /UNIT=0 /BLASTER=A:220 I:5 D:1 H:5
DEVICEHIGH /L:3,25920 =C:\SB16\DRV\CTSB16.SYS
  /UNIT=0 /BLASTER=A:220 I:5 D:1 H:5
DEVICEHIGH /L:1,10416 =C:\SB16\DRV\CTMMSYS.SYS
DOS=HIGH
SHELL=C:\DOS\COMMAND.COM C:\DOS\ /p
DEVICEHIGH /L:3,4560 =C:\WINDOWS\IFSHLP.SYS
DEVICEHIGH /L:2,13472 =C:\CDROM\CDROMDOS.SYS
  /D:IBMCD001

[WINDOWS]
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS HIGHSCAN
DOS=UMB
FCBS=4,0
DEVICEHIGH=C:\SB16\DRV\CSP.SYS      /UNIT=0
  /BLASTER=A:220 I:5 D:1 H:5
DEVICEHIGH=C:\SB16\DRV\CTSB16.SYS /UNIT=0
  /BLASTER=A:220 I:5 D:1 H:5
DEVICEHIGH=C:\SB16\DRV\CTMMSYS.SYS
DOS=HIGH
SHELL=C:\DOS\COMMAND.COM C:\DOS\ /p
DEVICEHIGH=C:\WINDOWS\IFSHELP.SYS
DEVICEHIGH=C:\CDROM\CDROMDOS.SYS /D:IBMCD001

[XMS]
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
SHELL=C:\DOS\COMMAND.COM C:\DOS\ /p

[COMMON]
BUFFERS=30
FILES=50
LASTDRIVE=E
STACKS=9,256
```

2. AUTOEXEC.BAT

```
PROMPT=$P$G
PATH=C:\WINDOWS;C:\DOS;
SET BLASTER=A220 I5 D1 H5 P330 T6
SET SOUND=C:\SB16
SET MIDI=SYNTH:1 MAP:E
SET TEMP=C:\DOS\TEMP

GOTO %CONFIG%

:EMSCD
LH /L:2,36256 C:\CDROM\MSCDEX /D:IBMCD001 /M:10
LH /L:0;2,45456 /S C:\WINDOWS\SMARTDRV.EXE
LH /L:2,10672 C:\MOUSE\MOUSE.COM
MENU
GOTO END

:WINDOWS
LH C:\CDROM\MSCDEX /D:IBMCD001 /M:10
LH C:\WINDOWS\SMARTDRV.EXE
LH C:\MOUSE\MOUSE.COM
MENU
GOTO END

:XMS
C:\MOUSE\MOUSE.COM
MENU
GOTO END
:END
```

Playing Games With Memory

*Continued from page **77***

• Sometimes, problems occur simply from the order of commands in start up files. For instance, commands following the WIN command in AUTOEXEC.BAT will be carried out only after Windows has been exited. Generally, place the larger drivers ahead of the smaller ones, check the DOS manual for more advice, and arrange accordingly.

• SETVER.EXE is not needed with DOS 6.X. Toss it.

Lastly, the majority of high end games, including DOOM, SimCity 2000, and NHL Hockey, use DOS extenders to run in Protected Mode. Games that work in this manner are usually indicated by the words Professional Protected Mode Run-Time when they load. They'll use every iota of RAM, and the more you have, the better. Just make sure you've got your memory configured as extended; for good measure REM out the SMARTDRV.EXE line in your AUTOEXEC.BAT file before running them and you'll be the Mondo Memory Messiah. Happy configuring. ❑

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An All-Too Brief Look At A Brief History Of Time

BY ROSS MACDONALD

Product	A Brief History of Time: An Interactive Adventure with Stephen Hawking
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A lot of people are taking credit for this excellent CD ROM — it's distributed in Canada by General Publishing, produced by Creative Labs Inc. for their "Blasterware" series on the Crunch Media label and created by Jim Mervis and Robert Hartman in association with Scientific American magazine. Which is symptomatic of the greatest problem in reviewing it – it's very difficult to be brief.

How brief can I be about *A Brief History of Time*, this CD-ROM version of Stephen Hawking's oxymoronic physics bestseller?

Those who actually bought the book — and we are legion — already know it's great. But as the pamphlet that comes with this disk points out, the book is so densely packed with information that understanding it requires a dedication for which few of us ironically have time.

Thus *A Brief History of Time* graces far more coffee tables than intellects.

Of course the real irony is that Hawking's book was intended as a lesson in physics to explain current theories on the nature of the Universe in terms best suited to the common man. Now we have this simple-ized, movie-ized, cartoon-ized, MTV-ized version on CD ROM. Which means this disk amounts to little more than a dumbed-down distillation of a dumbed-down distillation.

But who cares? Leave the books to the eggheads. It's cartoons and videos for me! The book is, however, included in its entirety for any throwback cranial types — though the producers have made incisively sure to illuminate the text with lots of cartoon and video fun.

The text, for example, begins with an anecdote about a Victorian scientist's lecture on the mechanics of the solar system which was roundly rebutted by a lady in the audience. Right next to that paragraph is an icon that gives up a Pythonesque cartoon re-creating the situation replete with [illegible] voices and drawings.

But this is much more than a mere digitization of the book. Using an interface set up as a cartoon rendition of Hawking's hypothetical office, you explore the multifarious contents of the disk by clicking on various items strewn about the desk and walls.

These hot spots — portraits, chairs, books, doors, etc. — lead to various videos and animations that illuminate, illustrate and demonstrate the physics and natural principles that are elsewhere discussed in the book.

A lot of this activity takes place in what is generously called "The Hawking Craft" which you enter through a door from Hawking's office. It's like a little theatre in which you watch cartoons, videos and real life interviews from the vantage point of a Jean Luc Picard in front of his Starship Enterprise viewing screen.

Unfortunately, however, the few dozen clips found in the "Hawking Craft" are all too brief and too simplified for anyone with abilities beyond Grade 7 science.

I thought the video called "Watching the Astronaut Fall Into a Black Hole" would be exciting enough. But all I got was a cartoon astronaut spinning around an artist's rendition of a hole with 45 seconds of speculation from Hawking on how neat it would be.

A hidden treasure though — among the many to be found if you hunt hard enough — is at least part of the scene from the movie *Insignificance* in which Marilyn Monroe explains the theory of relativity to Albert Einstein during a speculative rendezvous in his New York hotel room.

Unfortunately, the video footage is a bit bumpy, but that's probably because virtually all of *A Brief History of Time* is read directly off the CD ROM drive — I couldn't find any associated files on my hard drive.

Still, there's just so much good stuff here I feel like a dastard criticizing even that.

And, with an estimated street price of around 70 bucks, *A Brief History of Time* makes for a real CD ROM bargain — even if the book already languishes on your coffee table.

Brief enough? ❑

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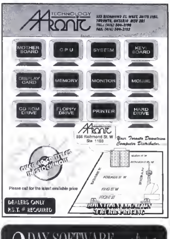
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CD-ROM REVIEW

The First General Feature Magazine on CD-ROM

Clik-ing Into the Future?

BY KEITH SCHENGILI ROBERTS

CD-ROM magazines are nothing new. There are several CD-ROM magazines available that distribute the latest in shareware, and there are subscription services that will ship you the latest software upgrades for your favorite program to your mailbox. But until now, CD-ROMs have not posed any challenge to the regular magazines. That was until *Clik Interactive*, from Montreal-based Premiere Interactive Media, came on the scene.

Clik Interactive is the first CD-ROM magazine targeted at a non-computer audience. It is aimed at the growing number of people who buy multimedia PCs and are looking for educational and entertainment multimedia titles. *Clik Interactive* contains a series of multimedia "articles," using a combination of video, sound, text and pictures to provide a type of story you can't find anywhere else.

Issued quarterly, *Clik's* focus is on arts and culture. In the first issue author John Irving reads excerpts from his latest novel *A Son of the Circus*, accompanied by a video interview and biography. The British band Lush is also featured, with clips from their latest CD, the full video for their song "Hypocrite" plus a video interview. There are also multimedia articles about media critic Noam Chomsky, Canadian painter Alex Colville and an exploration of Western culture's fascination with Vampires. It effectively uses multimedia to provide elements of a story that would be tricky or impossible to print.

The idea of *Clik Interactive* germinated from an ad placed in the Montreal Mirror by Ron Freeman, President of Premiere Interactive Media, back in January 1994. It called for creative artists and writers to produce multimedia. The idea of producing a general interest feature magazine on CD-ROM eventually became the premiere edition of *Clik Interactive*, issued late in 1994.

The concept of putting a magazine on CD-ROM was a strange concept to many of the people contacted for material. Editor Peter Bowering explains. "It was difficult to explain the concept of our magazine before our first issue came out, but in general they were receptive once the concept was understood."

Clik can be found primarily in computer stores. The company has recently signed a deal with an American magazine distributor, and it can also be found in the Interactive Media sections of some Sam the Record Man stores across Canada. One potential drawback is its price: retailing from anywhere between $24.95 to $34.95 ($99.95 for a year's subscription), it is cheap compared to the price of many new CD-ROM titles, but is well-above the price of printed feature magazines.

If the first issue is anything to go by, this Canadian firm has already mastered the art of producing a slick looking and easy-to-use multimedia magazine. *Clik Interactive* is an interesting experiment to see if the public is ready for interactive magazines. *Clik Interactive* provides a high standard for any other prospective multimedia magazines to follow.
❑

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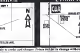

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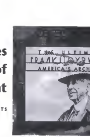
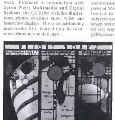
CD Celebrates Life, Work of Frank Lloyd Wright

BY KEITH SCHENGILI-ROBERTS



Title	The Ultimate Frank Lloyd Wright
Publisher	Microsoft Corporation
System Requirements	Multimedia PC with a 486/33 or higher processor, 4MB RAM, 500KB available hard disk space, double-spin CD-ROM drive, Windows 3.1 or later, mouse and sound card.
Price	$79.95

Architect Frank Lloyd Wright has had a large impact on North American design and architecture, and this elegant CD-ROM from Microsoft is a wonderful multimedia tour of his life and work. Produced in conjunction with Byron Preiss Multimedia and Digital Bauhaus, the CD-ROM includes illustrations, photos, narration, music, video and interactive displays. This is an outstanding multimedia title, marred only by occasional clumsiness in its design.



The CD-ROM not only deals with the architect's life and times, but integrates Wright's style of design into the presentation. The user interface is modeled after an art-deco style stained-glass window Wright once did, with an exquisite use of color, form and design. Installation is easy, and takes up well under 1MB of hard drive space. Once the program has loaded (after a short speech on the nature of architecture by Wright himself), the user can check out one of six different elements of the Wright "experience" to explore.

The Life & Times section places Wright's life and work in the context of the times, with occasional references to his writings, philosophy and pictures of his work. It presents the people, places, events and materials that influenced his life and style of architecture and philosophy. Snippets of video from an old documentary of Wright's Life are occasionally thrown in. Many of these snippets are rather awkward and some are only a few seconds in length. There was no way this reviewer could find this video and watch it in its entirety.

Wright's Works takes you through an exhaustive tour not only of Wright's architecture, but his designs for furniture and his stained glass installations. You can look up information on Wright in the Library, containing significant excerpts from his autobiography, his musings on architecture, and other people's biographies of Wright. Unfortunately, users are limited to searching for pre-defined subjects contained within the library, which severely limits its use. There is also no easy way to simply choose one of the publications contained within the Library and read it through.

The most interesting part of the CD-ROM (and what elevates it above the typical coffee-table book on Wright) are the Walking Tours you can take. You can use your computer to "walk" through and take a look at the design and structure of three of Wright's buildings. The potential of this type of medium becomes apparent when you realize that one of the three buildings (The Larking Building) no longer exists, having been demolished back in the 1950s to make way for a parking lot. You can tour the insides of all of the buildings, and do things regular visitors would never be able to do, like hover in the middle of an atrium five stories high to take a look at an architectural detail. Once you have taken a look at the Structural Elements section, which details Wright's philosophy and use of materials in his designs, most people will be interested in exploring their own sense of design. You can do this in the Modeling Wright section, where you can use some of Wright's building blocks and architectural elements to create your own buildings and learn about Wright's principles of design in the process. Once you are happy with what you have created, the final product is rendered as a 3D model you can explore.

While this CD-ROM has its flaws, this multimedia presentation of one of this century's great architects shows off the educational potential of the medium in the way it makes learning enjoyable. If you are interested in exploring the concepts behind Wright's works and have a multimedia computer, it is hard to go wrong by picking up this title. The "look-and-feel" of this elegantly presented CD-ROM also sets a new standard for multimedia presentations.

A Macintosh version is slated for shipping sometime early in 1995. ❏

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CD ROM REVIEW

A Home For The Pome:

Voyager Pokes Poetry Firmly Into The Digital Age

BY ROSS MACDONALD

Product.	Poetry In Motion CD ROM
From	The Voyager Company 578 Broadway Suite 406 New York New York 10012
Price.	$29.95 US

There's a disk you can purchase today
Where the poets carouse and display
Status quo they've eschewed
With their brazen pulchritude
And it's cheap enough so, What the hey?

Anyone casting their minds back to those glory days of youth will remember being gently bludgeoned into semi-slumber by the dead poems of dead poets back in junior high. Debate may rage over just how responsible our education system is for that moribundity of yore but nobody questions why poetry is generally embraced with as much lifelong affection as calculus once that precious diploma has been achieved

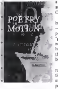
The good folks at Voyager however — purveyors of many an eccentric CD ROM — have ventured to resuscitate our interest in ars poetica with "Poetry In Motion" a disk featuring 25 contemporary poets performing their work and often providing some kind of commentary on their chosen vocation

Among the more illustrious in this collection — that is, those who have inexplicably achieved some sort of cult figure status — are William S Burroughs Alan Ginsberg Michael Ondaatje and Tom Waits Even every cool cognoscenti's icon of anarchy, Charles Bukowski is here quite likely the only poet openly sympathetic to the woes of we who survived high-school English In fact Instead of a poem Bukowski delivers a scathing commentary on how boring poetry — all literature for that matter — can be

But the meat of Bukowski's argument addresses the numbing effects of reading poetry whereas Poetry In Motion, as the title suggests is about poetry as an animate thing a performance

Beatniks knew the difference which partially explains the recent outcropping of neo-beatnik poetry nights at pubs and coffee houses everywhere

But disks like Poetry In Motion fit the current picture, too They're exactly the kind of stuff that has made the advent of CD ROM so worthwhile For each of the 25 poets cited you get the text of whatever it is they're saying or reading as well as a little 2 x 3-inch video of them saying or reading what ever it is



The only place this disk really falls down is in the fact that nothing else is forthcoming There are no biographies of the poets no bibliographies not even information about where and when the interviews and readings took place That said though you still get all the benefits of a written anthology plus the added multimedia perks of CD-ROM

There's a lot of kookiness here, too — surprise surprise — like The Four Horsemen performing a five minute "piece" that has absolutely no words. There's an awful lot of howling and throat clearing, though so something must be up

And for those with tastes running along more conventional lines there are plenty of quasi-comprehensible poets like Helen Adam one of the grand dames of the poetical world, but one who appears to have researched her poem, Cheerless Junkie's Song somewhat too literally

Poetry In Motion is destined to have only limited appeal by virtue of its topic but this disk is sure to at least entertain even the staunchest poet-a-phobe if only given the chance An old poetry hater myself I was surprised at just how much time I wanted to spend in this hyperbolic literary underworld.

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BY CHRIS KEAM

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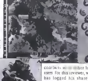

With both CD-ROM and outdoor equipment sales growing steadily Media Mosaic s first offering in its Outdoor Skills series looks like a natural Newcomers to fat-tire fun must usually invest in a few bumps and bruises to learn the techniques that make serious mountain biking more than carrying a bike from one obstacle to the next For the baby boomer with a nice bike who Media Mosaic has targeted with this disk, the spectre of broken bones or worse presents a serious impediment to hammering with the hard-cores

The information on this CD ROM is divided into three sections Essential Skills Mountain Bikes and Trail Riding The best approach for raw newcomers is to go through all the information at once and then return to Trail Riding for point by point explanations of riding skills Trail Riding is represented by a 3-D image of a mountain divided into North South East and West Each compass point offers skill sets for different conditions such as uphills, downhills logs obstacles and more A short Quicktime clip of the activity in question introduces each skill set

All the basic concepts and techniques can be found in Mountain Biking From bunny hops to counter-steering straight forward animations demonstrate how theory becomes reality on the trail. There are also sections that discuss the importance of green thinking on the trail, and the need to avoid conflicts with other trail users For this reviewer, who has logged his share of hours on some of Vancouver s most technically challenging trails almost all the advice rang true

Mountain Biking s layout is clear and easy to use Once inside a section several stones with painted on symbols range down the side of the screen acting as directional buttons for navigating the information A placeholder button lets you mark concepts for easy post or pre-ride retrieval Once you ve become used to the interface the button descriptions that appear when the mouse is on a button can be turned off through the Preferences.

Be forewarned, however This CD-ROM is not designed to appeal to experienced riders. Most of what is presented they will already know That said cyclists of intermediate ability may well find the tips and techniques offered to be effective in helping them visualize how to attack more challenging terrain

Mountain Biking is not the only sport that you can get started on with the click of a mouse Media Mosaic is planning a series of disks on outdoor activities such as kayaking and rock climbing for the near future ❑

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CD REVIEW

Civilization On A Platter

BY KEITH SCHENGILI-ROBERTS

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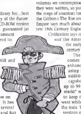

The people at World Library Inc., best known for their Library of the Future have come up with a CD-ROM version of The Story of Civilization guaranteed (at the very least) to reduce the amount of bookshelf space you need in your personal library.

Written over a period of over 50 years by Pulitzer prize winning historians Will and Ariel Durant, the paper version of The Story of Civilization comprises an impressive 11 volumes covering over 15,000 years of human history. The whole set takes up a full row on most people's bookshelves. It has been a popular choice of several Book-of-the-Month clubs and has sold millions of copies world-wide.

The CD-ROM contains the full, unabridged text of all 11 volumes, over 800 black and white pictures and maps, and a 30-minute previously unreleased film of the authors as they work on the final volume of their series. The series begins with the 1939 publication of Our Oriental Heritage (about the civilizations of Ancient Egypt and India) and in separate volumes covers Ancient Greece, Rome, The Renaissance and The Reformation. It also includes the Pulitzer prize-winning Rousseau and Revolution, and finishes in the 1840s with the final book, The Age of Napoleon, which was published in 1975.

The graphical interface of the CD-ROM is plain, and while it does not have the polish of such titles as Microsoft's Encarta or Bookshelf, it is nonetheless useful. While nobody is likely to want to sit down with the CD-ROM and read all 11 volumes on their computer screen, the search engine is excellent, allowing the user to find exactly what they are looking for quickly and easily. It is a great resource for any student. The CD-ROM can run in either DOS or Windows, so does not have the memory requirements typical of other multimedia titles.

Time has not been kind to the works of the Durants. The maps that accompany the volumes are contemporary to the time when they were written, so you will see names on the maps of countries long gone. In the way the Gibbon's The Rise and Fall of the Roman Empire says much about Gibbon's times in late 18th Century England, so The Story of Civilization says much about America and the American viewpoint in the early- to mid twentieth century.

The CD-ROM also comes with a few minor enhancements that make using it a lot easier. In addition to the search capabilities, you can use up to 99 electronic "bookmarks" within the CD-ROM to keep tabs on where you were while roaming through the texts. There are also audio versions of the introductions to each book in the series and the reader is always notified whenever a picture or footnote relevant to the passage they are reading comes up.

The Story of Civilization is a unique series, and the CD-ROM version is a great reference for any student of history. While the graphical user interface does not have the sort of pizzazz seen in other multimedia titles, it is easy to use and lets the user find what they are looking for without much fuss. When I was growing up, my Uncle had the full set of The Story of Civilization and I always envied his kids for it. Twenty years later, technology has brought the whole thing down to a single CD-ROM, and thanks to its search capabilities, it is better suited to help students. It may not look as impressive on a bookshelf as the original books do, but the CD-ROM takes up a lot less space. ❑

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- Keep glare to a minimum and use a glare screen. Both outside and inside sources can cause glare on your screen. Fortunately, there are many types of glare screens available that offer maximum glare reduction while still maintaining the brightness of the monitor screen.
- Don't position your screen in front of a window. The contrast caused by trying to focus between outside light and your terminal could cause tension headaches.
- Change your field of vision periodically. Gazing at a distant object forces your eyes to readjust while maintaining a short fixed focus for too long causes stiffness and tension.
- Take frequent breaks. A good rule of thumb is to spend 15 minutes away from the computer terminal for every two hours in front of it.
- Exercise your eyes. Slowly roll them clockwise three or four times, then reverse the direction.
- Blink frequently. Blinking moistens the eyeballs and minimizes itching sensations caused by tired eyes. Also lower the pressure on your eyeballs by cupping your hands and place them over your eyes for one minute every half hour.

Quill's Computer Supplies Catalog contains a variety of products designed to help computer users avoid potential eyestrain problems. To obtain a free copy send your name and address on company letterhead to Quill Corporation, Public Relations Department, 100 Schelter Rd, Lincolnshire, IL 60069. ❑

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A Blueprint For Your Computer Workstation
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The nine page brochure provides tips for reducing glare and eyestrain and includes a checklist to help the reader make any adjustments needed to achieve better posture. It also gives some examples of different types of workstation arrangements.

To receive a copy of the brochure write 3M Canada Inc., Safety and Security Systems, P.O. Box 5757, London, Ontario N6A 4T1 or call 519 452-6009. ❑

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CASE STUDY

Setting Up Pages on the Web

BY MICHAEL LEVENSTON

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The Web Server

Once you know you have something to say, you must get down to the technical nuts and bolts of getting your documents on line

Finding an Internet Provider who is also a Web Server is first on the list There's no point in preparing all your material if you can't find somewhere to put it where it can be accessed from all over the world The University of British Columbia was our choice because they had already served us well for some months as a connection to the Internet Also an article in their fine publication Campus Computing & Communications about writing Web documents pulled us in.

However, they had never before allowed an outside community group to use their Web site Letters of support from four professors in different faculties who liked our work got us the green light

To place our documents on the Web we need a special account that allows us to go into our directories whenever we put in documents UBC s name for this account is "Legacy" and with it came our new account name which appropriately identifies us as cityfarm@unixg ubc.ca.

Before deciding to publish on the Web we had previously learned how to connect to the Internet using a 14 4 bps modem Mac TCP SLIP and the variety of software used when on the Internet UBC support staff helped us through this maze as did the many excellent books available on the topic

HTML

Once you have your account it's time to learn how to write up your pages.

For the Mac I used a program called BBEdit Lite 3.0 with either BBEdit HTML Extensions or an alternative BBEdit HTML Tools They can be found on the Internet There are a number of editing programs out there but this program was most often recommended for use on the Mac at the time I began New programs are uploaded to the Net almost every week, so keep a lookout. Lots of discussion about these programs and other web publishing matters can be found on three very active Usenet newsgroups

"comp.infosystems.www.misc"
"comp.infosystems www providers"
"comp.infosystems www users"

HTML which stands for hypertext markup language is a set of tags that are attached to your text to make it do special things when put up on the Internet For example when I put <H1> and </H1> around some text that is a heading, it will show up in a certain font at a specific point size on the Internet Other tags make photos appear on your page and still others provide instant links to other people s pages around the world

How do you learn HTML? There are many documents on the WWW that

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approach the subject from a variety of angles. Read as many of these as you can. Also new books focusing on writing HTML are arriving in bookstores as you read this. Two just in are *Teach Yourself Web Publishing with HTML in a Week* by Laura Lemay, Sams Publishing, 1995, and *HTML For Fun and Profit* by Mary E.S. Morris, SunSoft Press, 1995. (also see accompanying article on the basics of HTML in this issue — Ed.)

Netscape, an excellent WWW reader (available free on the Internet as are MacWeb and Mosaic) links you to many HTML teaching sites. When you first open Netscape's Homepage read "How To Create World Wide Web Services" and follow the links.

Also try copying other people's work by looking at their HTML source code. This can be done simply by going to the appropriate command in the menu of your favorite Web reader.

Easiest of all, find someone who will sit with you and show you the secrets. This will save you hours and hours of "what do I do next?"

There are a few courses being offered by universities and colleges or local Internet providers, so check those sources in your own area.

Very simple pages can be created using just a few tags that will make headings, separate paragraphs and format lists. More difficult to learn are the hypertext links which take the reader from one page to another.

All of the "pages" (files) you write in BBedit must be named and kept in one folder. For instance we have

urbagnotes1.html
demogarden2.html
seinfeld3.html
in a folder titled, WWWcityfarm.html

(Leave no spaces when you create these names.)

In that same folder can be put all sorts of pictures brought in with a scanner. I took a color photo of our new garden sign, scanned it into Photoshop in my computer, cropped it, saved it as a PICT, then opened it in a shareware program called GIFConverter. Here I produced a smaller sized image and named it GARDENSIGN.GIF.

Now for the real fun and under documented part of the adventure.

Putting Your Stuff in Your Directory

From your desktop you have to get your material into your Web server's machine. For me that meant sending the files from my home computer into UBC's machine. You can do this on the Mac by connecting to the Internet and using a program named Fetch.

But before uploading your files you must first get into your directory (a "folder" in Mac terminology) to set up a special directory where you can put your material.

Telnet is the software of choice for this. It allowed me to go into our cityfarm account and work with my directory as if I were at home on my own machine. However, you must learn a peculiar language called UNIX to do the job. (Get the book *UNIX for Dummies*.)

Here are some of the commands you need.

Once inside your main directory, the command **ls** will "list" the directories already there. Then you must **mkdir public html** that is "make directory" plus the name of your new directory. Go out of Telnet and back to Fetch. You are now going to upload (send) your material.

Continued on page **92**

Learn how to make your own HTML page.

See the Learning Section, Page 100

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HTML Tips For Windows Users

BY ELDDN WONG

Now that you have read Michael s article, you think to yourself Great I'm ready to put some Web stuff up for myself! But wait a minute you don t own a Macintosh Now what? Most of Mike's article is still useful for Microsoft Windows users but here s more Windows related information

First of all you need a Web browser Fortunately there are many available (NCSA Mosaic Netscape WinWeb etc.) and many of them are identical in looks and operation to those on the Macintosh Currently the most popular browser is Netscape

Now you are ready to create HTML documents HTML is an acronym for Hyper Text Markup Language There are many ways of creating the documents For the true programmers out there you can use a plain text editor and type all of the text and embedded tags as you type For the rest of us there are many tools at our disposal

HTML Tools

These packages are specifically designed to help you create HTML documents Some of the packages that I have tried are HoTMetaL HTML Assistant and HTML Writer They all have their individual merits (e g HoTMetaL checks to make sure you don t have mismatched HTML tags) but all of them are very useful and I would recommend any of them

There are also add ons for word processors like Microsoft Word for Windows and WordPerfect for Windows Microsoft recently released its Internet Assistant product a free add-on for Word for Windows 6 0a or newer You can get it from http //www microsoft com/ This product adds a toolbar with the different HTML tags on it You can simply add HTML tags by choosing the one you want from the toolbar When you are finished all you have to do is save the file as a HTML document. Quarterdeck also has a MS Word add-on product called Web Author

When working with graphics images a couple of applications that I find very useful are WinGif and LView Pro WinGIF can produce interlaced GIF files while LView can save a GIF file with a transparent background LView pro can also save files in JPEG format This format compresses images smaller than GIF files HTML documents can handle both GIF and JPEG file formats for images

Once you have your files created you need to put them up on your account To access you UNIX account you can use any communications package (Windows Terminal Procomm etc) If you are already connected to your UNIX account using SLIP or PPP (communication protocols) then you can use terminal packages like EWAN or Trumpet Telnet to log onto your account in order to create directories and change file permissions To transfer your files once again you can use a communications package or you can use Winsock FTP which works with your SLIP or PPP connection

HTML Hints

Please keep these factors in mind when you are creating and transferring your HTML files.

- Because DOS limits your filenames to a maximum of eight characters and a three character extension, your filename will likely have the extension htm UNIX systems usually don t recognize this as a HTML file and need an extension of html After transferring your files from

Continued on page 92

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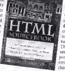
Sourcebook Reveals HTML Subtleties

BY KEITH SCHENGILI-ROBERTS

Title: *HTML Sourcebook: A Complete Guide to HTML*
Author: Ian S. Graham
Publisher: John Wiley & Sons
Price: $41.95
ISBN: 0-471-11849-4
Softcover, 416 pages, 1995



The World Wide Web is a recent phenomenon on the Internet, and has only taken off within the past year or two. The incredible and rapid rise in popularity of the World Wide Web has meant that there haven't been many books on the subject available. What makes the Web special is its use of HyperText Markup Language (HTML), a system that allows Web designers to add images, text and sound to the Internet. Up until very recently, people have either had to rely on sources for HTML found on the Web or piece together what they could about HTML by rummaging through various chapters devoted to it scattend across different books. With the *HTML Sourcebook*, there is now another option. The book is an excellent introduction and tutorial on HTML.

Written by Ian Graham, a Professor of Computing and Communications at the University of Toronto, the *HTML Sourcebook* provides a complete and systematic way of learning about HTML. Before writing this book, Graham had constructed a series of Web pages devoted to teaching HTML. Graham understands the strengths of a printed publication as opposed to a Web site and his book is an excellent reference for Web constructors. Unlike the many Web sites on the subject, the Sourcebook teaches style along with technique. In a methodical way, Graham not only shows you how HTML is used to construct Web pages, but also how to create pages that are easy for an audience to read and for you to edit.

HTML uses a number of different "tags" to change the appearance and placement of text and graphics on a Web page. Graham steps you through the process of creating Web pages, emphasizing the stylistic differences that make gboo and bad Web pages. He also illustrates the logical concepts behind HTML, showing not only how it can and cannot be used but why HTML works the way it does. He takes some time to look at how various Web browsers interpret HTML code differently, something that cannot easily be displayed on any of the Web based tutorials on the subject. There are also useful sections devoted to programming CGI scripts, creating on-line forms, plus choosing Web browsers and converters for all the major computing platforms. (It should be mentioned that many of the tools mentioned in this book are Unix-based. -Ed.)

One of the hazards of anything as rapidly evolving as the World Wide Web is that new trends can quickly make any print publication obsolete. In the time it took for the book to go to press, Netscape Communications came on the scene with their Web browsers. The Netscape browsers have quickly become the browsers of choice for many users, and to the consternation of many Web authors, Netscape have also introduced their own variations to the set of HTML tags common to all other browsers.

Despite this, the *HTML Sourcebook* is well-written and contains the type of information that only comes from extensive experience with HTML. It is a great primer on HTML for the beginner and an excellent resource for more experienced Web authors. ❑

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Author Scores Internet Hat Trick With Mosaic Guide

BY KEITH SCHENGILI ROBERTS

Title	*The Mosaic Navigator: The Essential Guide to the Internet Interface*
Author	Paul Gilster
Publisher	John Wiley & Sons
Price	$23.95
ISBN	0-471 11336-0
	Softcover 243 pages 1995

Author Paul Gilster has already written two excellent books on the Internet *The Internet Navigator* and *Finding It On the Internet*. What was missing from both of these previous books were extensive sections on the World Wide Web and Web browsers. The author has more than made up for this deficiency with *The Mosaic Navigator* which contains useful information for both those just getting started on the Internet and more experienced Web surfers.

The Mosaic Navigator is designed primarily for users of the Windows version of the NCSA Mosaic World Wide Web browser, but there are also extensive sections for Macintosh users. The book covers the basics and explains what the World Wide Web is, the type of Internet account needed to run Mosaic and how Mosaic is used. This is also one of very few books to spend any time on how to set up the program on your computer. It looks at how you can acquire a copy of the latest version of Mosaic, and how to install the additional programs needed to run Mosaic under Windows like WIN32s and WinSock SLIP/PPP software, a much needed section most other books on the subject lack completely.

While the author spends some time looking at what's available on the World Wide Web, more experienced users will find the sections on customizing NCSA Mosaic handy. The settings and uses of the various entries contained within Mosaic's configuration files are explained for those who want to do some tweaking, along with tips on how to customize the "look and feel" of your copy of Mosaic.

Unfortunately, this fine book may soon become a victim of the fast-paced times of the World Wide Web. We are increasingly convinced that the World Wide Web browser of choice is Netscape Communications Netscape browser, rather than NCSA Mosaic, which is considered to be the second most popular browser. While much of the information contained within the book will apply equally to the Netscape (or any other) browser, the detailed information on the workings and settings of NCSA Mosaic will not help anybody using Netscape.

This is an excellent book on one of the more popular World Wide Web browsers written in the easily understood style that has made the author's previous books on the Internet stand out from the rest of the pack. If you are a beginning World Wide Web surfer, or an experienced user of NCSA Mosaic, you'll find this book a good way to get started and a valuable reference. ❑

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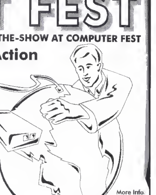

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Graphic Designers Grapple With New Media

BY JACQUELINE EMIGH

NB — Graphic designers can contribute a lot to the "new media" in terms of aesthetics, organization and functionality but designers must recognize that working with interactive media like CD ROM and the World Wide Web (Web) is a different ballgame a group of early experimenters agreed during a panel session at Seybold 95 held in Boston in April.

Designers writers radio and TV broadcasters database specialists and a wide variety of other disciplines are currently converging upon "new media," said Steven DuPuis.

Experts are coming at the new arena from two directions — entertainment and information — to form a new "infotainment" hybrid. But much of the new media now available is "a mess," he added.

"The designer's skills are needed more than those of any other creatives," asserted DuPuis who is principal and creative director at DuPuis Design. Graphic designers can lend a hand with visual and organizational skills, as well as with overall communications according to DuPuis. "We are the communicators," he contended.

Alyce Kaprow principal at The New Studio echoed this opinion, asserting that many Web home pages and CD ROM presentations today are being "prepared on airplanes" by "people with no design sense."

Kaprow likened the state of the new media today to the early days of desktop publishing, when end users with no training in graphic design began to churn out "awful overheads" and equally unattractive newsletters. But then graphics pros started to contribute their expertise to desktop publishing, just as they are doing today in terms of the "new media" mix she added.

In adding their skills, however graphic designers should be careful to keep functionality at the forefront she suggested. For example some of the slides being created these days are "unreadable" from the back of the room despite their "wonderful fonts," she said.

In the field of new media, functionality means "giving people the tools they need" for access to interactive media, according to Kaprow. "You should stop thinking of yourself as a graphic designer and start thinking of yourself as a designer. The equilibrium is changing between you and your customer. And remember that the viewers are not just viewers, but users," she advised.

Designers also have a "responsibility to the environment" that calls for turning down certain projects as unacceptable such as those involving excessive violence she reported.

Kaprow added that designing for the new media can call upon a range of knowledge that runs the gamut from page layout, to "a sense of the infrastructure," to familiarity with specific multimedia authoring programs and computer platforms.

In deciding where they want to focus their activities designers should ask themselves "what it is they like best about design," she recommended. ❑

Setting up Pages on the Web

Continued from page **87**

Don't ignore these tips:

- None of your file names can have spaces in them.
- As you are about to upload files, delete either bin or txt from the name.
- For GIFs, send them as Raw files from the Mac.

Once you've sent your files use Telnet again to go into your directory. Type ls then cd **public html** to "change directory" to your html material and then ls -l to list more details about your files. Finally type **chmod a+r** plus the name of the file for each of your files. This will allow the outside world to read your material.

What you have essentially done in the above is put your pages in a folder at your Web server and make them readable to those looking in from outside. Once you get the hang of it you can put up new pages using Fetch and Telnet in a matter of seconds. That's unbelievably quick when you consider that you are publishing to a world audience.

The Final Link

Finally your Web administrator will mysteriously link you to the rest of the world so that everyone will see the files in your directory. You will be presented with a special address your URL, so that others can find you.

Ours is http //unixg ubc ca 780/~cityfarm/urbagnotes1 html

Now you can be seen, by those who know about your site from any place in the world with the appropriate Internet connection.

It's Never The End of Course

Sometimes your server will be down and no one will be able to access your pages. Ominous reasons for such occurrences include "forgot to start the daemon" that controls access to WWW homepages" which will leave you feeling helpless. However you can trust that these down times will be corrected and your pages will sail happily around the world.

And, of course, you have to keep writing new pages! This will keep your audience coming back for more. You will also have to be creative to let other people know that your pages are available. For instance you can post a note in an appropriate Usenet group or send out a press release to magazines whose readers might be interested. ❑

Michael Levenston is the Executive Director of City Farmer

HTML Tips for Windows

Continued from page **89**

your machine to the UNIX server you must change the extensions so that they are html instead of just htm otherwise it will be read as a text file (at least this is the case with the University of British Columbia's Web server).

- Before transferring any of your files to the server you should also check any links referencing other HTML documents to make sure they have the filename extension html. If you are testing the links and files on your computer you will be using htm as the file extension but when you are ready to transfer the files you should go through your documents and change all of the extensions. Once that is done, you can transfer your files change all of the filename extensions on your UNIX account (see above) and all of your links will work, otherwise you will have to make all of the changes using an editor on your UNIX account.
- Transfer your HTML files as ASCII text and your image files (GIF, JPEG) as binary files. ❑

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BY DAVID TANAKA

Title	Official Guide to Using OS/2 Warp
Authors	Karla Stagray and Linda Rogers
From	IDG Books in Canada Macmillan Canada c/o Gage Distribution
Price	$39.99
ISBN	1 56884-466-2 Softcover 507 pages 1995

This book should have been included with Warp It's what a users manual is supposed to be: it provides basic information plus a wealth of little tips that go a long way toward helping a new user get started with Warp

The Official Guide To Using Warp is authorized by IBM which also holds the copyright on the text and illustrations The introductory pages explain that the Official Guide is the first in a series of IBM Press books.

Like the blue users manual that comes with Warp, the Official Guide uses a straightforward procedural style — to accomplish X, follow steps 1, 2, and 3 — that is easy to follow When the two books are used together, they complement each other quite well.

In fact, in places the Official Guide even uses text that s identical to what s found in the Warp manual The difference is that the Guide takes most subjects far beyond the treatment they're given in the blue manual

Pick a topic like printing, for example The Guide actually sets down a step-by step procedure for it and throws in a couple of useful tips on using printer shadows, as well

In the blue manual there s no mention of how to actually print a file There's all kinds of discussion about the printer object, and how to change all the settings but nothing on how to actually print something. While printing is not a difficult procedure — do it once and you re not likely to forget — it is not particularly intuitive, and Windows users might not even think that the right mouse button does useful stuff

Another aspect that Windows users might not be familiar with in Warp is the ability to set clipboards to public or private In the blue manual there s a terse 23 word explanation of the word private as it pertains to the clipboard In the Guide there's an entire chapter (albeit quite short) devoted to the topic of private versus public clipboards what impact it has on users who switch between Win OS2 and Warp sessions and how to change the settings

Finally A BonusPak Manual

The book devotes 10 chapters spanning some 150 pages to the basics of the BonusPak. While none of the BonusPak applications are that complicated there s virtually no paper documentation for BonusPak in the Warp box If you ve been scratching your head over some aspect of the personal information manager or IBM Works the Official Guide will likely hold the answer

Even though coverage of the BonusPak applications is generally good some sections are glossed over For example the chapters on the OS/2 Compuserve Information Manager and the Internet Connection are very detailed, but the section on the IBM Works spreadsheet module is just plain inadequate

Compare the manual for a comparable product — ClarisWorks or Microsoft Works for example — and you ll find a much more helpful treatment of spreadsheet basics Presumably these works applications are aimed at users who aren t likely to have the depth of knowledge of a 1-2 3 or Excel power user, so more on the basics would have been helpful.

Summary

I'm a little annoyed that the $40 you'll have to shell out for this book is a lot to pay for information that should have been included in the OS/2 users manual in the first place But that's another issue

In terms of value I know I've spent at least twice that much in the past few months scouring the OS2User and OS2Support Forums on Compuserve to unearth only a fraction of the nuggets of advice that are presented in the Official Guide If you are new to OS/2 and are serious about Warping you need this book. ❑

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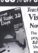

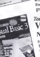

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Advice For Multimedia Entrepreneurs

BY KEITH SCHENGILI-ROBERTS

Title	*Making Money with Multimedia*
Authors	David Rosen and Caryn Mladen
Publisher	Addison-Wesley Publishers Limited
Price:	$19.95
ISBN	0-201-82283-0
	Softcover 213 pages 1994

Whether you own a computer or not multimedia is gradually becoming a part of our lives. From the latest CD ROM game to information kiosks appearing in stores, to the educational programs used in the schools to commerce on the Internet, multimedia is increasingly a preferred way of accessing and delivering information.

Some analysts predict that multimedia will become a $24 billion a year industry by the turn of the century, so expect to see more of it. This book is for people who are trying to understand the industry and how they can try to make a profit from it.

The main focus of this book is on the business-end of multimedia. Sponsored by Apple Computers, Toronto-based management consultant David Rosen and lawyer Caryn Mladen investigated the state of the industry and have put together a book that will help anyone trying to start up a multimedia business — or thinking of investing in multimedia firms. It looks at the processes, finances and marketing necessary to produce a successful multimedia business.

Most of the material will already be familiar to anyone who has taken any business or marketing courses. However, these are exactly the skills that are generally lacking in the people who have the technical savvy to produce multimedia. You learn how to make a business plan, keep a balanced sheet and how to present and sell your product.

The book does get specific when it comes to locating and targeting a market for your multimedia product, the types of multimedia products currently on the market, concerns about licensing and copyright and predictions of what the future may hold for the industry. There is also a list of marketers, distributors and value added resellers (VARs) who may be interested in your work.

While targeted towards people interested in the multimedia industry, the book is a good primer on the software industry in general. There certainly is a need for this type of book on the market. While it is the type of book that can easily be digested in a couple of days, it will likely become dog eared from repeated use. If you are interested in getting into the burgeoning multimedia industry in any way, this book deserves a place on your bookshelf. ❑

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Programming Your Word For Windows

BY JIM CAUGHRAN

Title. *Hacker's Guide to Word for Windows Second Edition*
Authors Woody Leonard, Vincent Chen Scott Krueger
Publisher Addison Wesley 1995
Price $51 95 Softcover 912 pages Comes with floppy disk

Programming is still regarded as an arcane art best suited to unsociable young geniuses Yet nearly everyone who uses a computer programs it to one extent or another A spreadsheet computation a mailing list or a macro to set up special formatting would have required a programmer just a few years ago

Programming has become so easy that we don t call it programming any more. Your word processor has a programming language or "macro language" built into it For Word for Windows it is a powerful dialect of the Basic language which can handle just about any program you might want to write for Windows! Word macros can handle Word documents superbly Almost anything you can do with Word for Windows can be expressed in a macro. If you often find yourself repeating the same keystrokes to change formatting or reorganize a file, think of a macro

For example, if you frequently save documents in text form perhaps to send them electronically you may want to change several things before saving them Printers "curly" quotes or an em-dash may not transmit properly — the recipient may see them only as illegal characters You may want to double space between paragraphs After repeated "Edit/Replace" commands you wonder if there s a better way There is.

The easiest way to create a macro is to record your keystrokes and mouse clicks with Tools/Macro/Record Word can then repeat the operation when you need it. You can use the macro editor to write more complicated macros a macro can repeat a series of instructions, make decisions, display dialog boxes for input do calculations, read files from Word or from other applications communicate with other applications — the list is endless

The Hacker's Guide is huge 910 cluttered pages with narrow margins. It is primarily a reference book over 700 of those pages are command or field descriptions Its context is professional High powered macros such as the authors excellent shareware Word add on, WOPR are included with the book. The simple macros you or I might write are almost overlooked (For example the authors frown on recording keystrokes)

The book is rather chaotic. A basic introduction to how Word does things leads into a digression on implementing hypertext documents in Word Basic — before the basics of Word Basic. The style is flippant and irreverent, often complaining of the shortcomings and bugs in Word The authors have experimented with each command and its limitations, and provide examples of its use together with work-arounds for problems.

Because most Word commands have corresponding Word Basic commands, this makes the book a superb advanced reference to how Microsoft Word works If you want solid knowledge of the workings of Microsoft Word and how to get around its inadequacies, this is quite a good book If you are looking for a basic understanding of Word macros, this might be a difficult place to start. ❑

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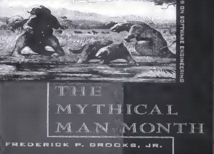

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Verbex Listen

Continued from page ***42***

your voice for the rest of the session.

When you're actually using an application any other tasks like opening the file manager take longer to accomplish as Listen closes down, stores information and waits for you to return to the application you've been working in

I've also found that when I start Windows about 30 percent of the time I get a prompt reading "VBXVSRVR Caused A General Protection Fault In Module VBXFE.DLL 0003 0208" Whateverthehellthatis. Trial and error experiments have revealed that if I just ignore this and re-boot the computer it goes away and everything's fine 'til next time.

Another smaller flaw is embedded into the installation process itself When I first got the package I followed the extensively documented installation instructions exactly But Listen just refused to operate. I kept getting numbered error messages that weren't explained in the manual. I ended up having to call Verbex's (fortunately) 1-800 tech support line (one of those "leave-a-message-and-somebody-will-call-you-back" deals) in order to straighten out what turns out to be a minor problem.

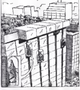
Listen looks for a WinVC card Now I'm not sure what that is but as I use a PCMCIA sound card in an NEC Versa notebook I'm not sure how to define it I thought that Listen had solved that dilemma for me because a prompt came up during installation that read. "A WinVC card has been detected in this system. No further configuration is necessary " So I chose "OK" It turns out that prompt pops up regardless and what I had to do was choose from the list of alternatives to find the right sound card. After that no more installation problems

Finally I wonder why Verbex chose to include a headset with only one ear piece since virtually all computer sound stuff is in stereo The headset has stereo jacks for both the microphone and the earphones but there's only one earphone with a grip for your skull on the other side I'd be happier with two ear speakers. (Telephone users might disagree. – Ed.)

Overall a pretty good package for a not outrageous price I'll be curious to see whether I acquire the habit of always using Listen though once the novelty factor has expired

"Print file!.. PRINT FILE!!.... Pleeeeeze print the damn file... ❑

Sightings Steven M Johnson



Several department stores in America's troubled downtown business districts are investing in Wallmasters safe but dizzying exercise machines used to climb up and down building facades

Canadian Music Week Event

Music, Multimedia Converge on Toronto

BY KEITH SCHENGILI ROBERTS

As part of Canadian Music Week, the Music and Multimedia Show held at the Toronto Convention Centre March 24 - 26 was meant to showcase the best of what Canadian and International music suppliers had to offer and provide a glimpse of interactive-media for the Canadian music industry. We are getting closer to the much talked-about "convergence" of technologies as the digital information on music CDS and CD-ROMs begins to come together.

The focus of the show was music music music. There were representatives from just about every area of the music industry. Several local commercial radio stations had booths at the show and Net savvy CFNY was taking music requests via e mail — until their computer self-destructed at the show.

There were many things at the Music and Multimedia Show that would be familiar to most people including booths from music store chains like HMV, and various music magazines. But much of the show was devoted to the side of the industry only those who make the music would want to know about.

The floor was filled with music promoters, sound equipment manufacturers, CD pressing firms and various other firms you would probably never even suspect existed like the firms that specialize in making the machines that hurl paper streamers and confetti at the rock concert crowds. There was even a technological clash of cultures as vintage tube amplifiers shared the same floor space as immersive virtual reality games.

Multimedia took a back-seat to the music business at this show but what was present clearly demonstrated that computers and music are coming together.

The Vivid Group — The Mandala System

Local multimedia innovators The Vivid Group were present showing off their latest multimedia wares. Using a video camera, computer and a television screen people are put into virtual worlds that respond to their actions. People in the Toronto area may be familiar with their installation at the Hockey Hall of Fame where people can become a virtual goalie and try to stop the hordes of digital pucks that are slap shotted towards them. At the Music and Multimedia show

Continued on page **99**

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Toronto's Music Week

Continued from page **97**

they were demonstrating new game modules including a version of virtual soccer

One of the first uses the Mandala System was demonstrating was how people could create music with their whole body using the system These systems were on display at the art and technology side-shows at last year s Lolapalooza alternative-music concert series The company s main success these days is turning their Mandala Systems into marketable games but they are still in touch with their musical roots with a recent module dedicated to drumming The Mandala Systems range in price from US$15 000 $56 000

Contact The Vivid Group (416) 340 9290 or via e-mail vivid@gpu utcs utoronto ca

Virtual Music — The Virtual Guitar

One booth that continually attracted a lot of attention was Virtual Music s The Virtual Guitar, which looks, feels and sounds like an electric guitar

If you are an alt-guitarist looking to enhance your virtual guitar skills the Virtual Guitar is a great way to start The Virtual Guitar hooks into your computer s game port and comes with a CD ROM guitar strap and pick Plug everything in install the software and soon you can be strumming along in several virtual environments Join a garage band tour the clubs or take the stage with Aerosmith in front of a zillion screaming fans

The Virtual Guitar only asks that you play the rhythm of the music that appears onscreen Each guitar strum records a spike on the monitor which you compare to spikes corresponding to the rhythm track of the music If you do well you can hear the result and get the kudos of your fellow virtual musicians If you blow it you can expect to be booted off stage and get some career counselling If the advice about giving up your guitar career and opting instead for jobs like sheep-shearing and grocery bagging doesn t inspire you to try try again nothing will

The Virtual Guitar will run on any multimedia-capable PC with 10MB of free hard drive space

Contact Virtual Music (617) 271-0900

Caught in the Web

One of the major problems of most start up bands is getting noticed There were plenty of music promoters at the show but the most innovative has to be Caught in the Web a [illegible] that has ventured [illegible] the on line world The World Wide Web has the potential to provide a huge audience for the music industry

Caught in the Web plans to draw that audience to their site on behalf of record labels bands or other businesses by providing the equipment and programming necessary to deliver pictures music and video to Web surfers The Web s fast becoming the place to find out the latest about various music artists and emerging trends from regional bands from around the world

The commercial Web industry is still in its pioneering stages, but with major music labels like Warner Sony and Geffen getting on the Web expect to see more firms like Caught in the Web (which is itself only a couple of months old) appearing on the scene

Contact Caught in the Web (416) 512 7269 or e-mail citw@maple net
World Wide Web http //www maple net/citw/

Apple Corporation and Treble Charger

Apple Computers had a large multimedia presence at the show There were several high-end Apple multimedia computers where visitors were invited to explore the World Wide Web and CD ROMs by music artists Peter Gabriel The Replacements and David Bowie At a demonstration at Apple s Multimedia Stage it became apparent that CD ROMs are no longer the exclusive domain of big name established artists

A member of indie music band Treble Charger has been working with the multimedia production firm Digital Renaissance on the band s forthcoming CD EP Scheduled to be released at the end of May the 9-song CD EP will be playable on any regular music CD player, and will also be compatible with Mac and Windows multimedia computers

The inventive content of the CD-ROM portion of the disc includes text from fanzines videos and sound clips from other indie artists and cartoons This and liberal doses of randomness thrown into the production of the disk will make it a very unconventional CD-ROM when released Maybe this heralds the birth of an indie CD-ROM scene but however you look at it things like this make the music scene a lot more interesting.

This was an interesting trade show—for once the emphasis was not on technology but how artists can use technology to enhance their medium Despite the "Future is Now" slogan of the show much of what was on display indicated that a better phrase would have been The Future is Expected Real Soon Now " Nevertheless you can expect to see more of these types of trade shows in the future as technology and the arts continue to converge ❑

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Weaving Your Own Web Site

BY KEITH SCHENGILI-ROBERTS

So you have got yourself an Internet account and have started touring the World Wide Web. Using a World Wide Web browser like Mosaic or Netscape, you've used your mouse to point and click your way through the Internet, visiting various "Home Pages" on the way.

These multimedia Home Pages often combine text, pictures and sound. The range of topics covered in the Web is highly diverse: you can find information on your favorite rock group, upcoming movies, where to find the best restaurants in San Francisco, plot synopses of upcoming television shows, and more.

According to one source, over a hundred new Home Pages appear on the Web every day. University level courses are beginning to be taught on the Web, and you can even check out the cost of funeral arrangements for that fateful day when you yourself become virtual.

With all the interesting things you've seen on the Web, you are thinking of making your own personal contribution. But where to start? If you already have an Internet connection, you probably have most of what you need to get started. All it takes is a small investment in time, a little investigation, and the right tools to enable you to make a personal statement on the Web.

Getting Started

Before you actually start constructing your own Home Page, make sure your Internet Service Provider (ISP) will permit you to place one on their site. Many Commercial ISPs provide an allowance of disk space (usually a few megabytes) when you get an Internet account. If you plan on putting up lots of pictures, sound or video files, the more disk space you have available, the better. Many people use this space to store files, and the ISP does not always want this space used for Home Pages. While popular Home Pages often provide free publicity for an ISP's services, large numbers of people accessing a Web site at once can overwhelm an ISP, effectively shutting it down.

If you access the Web from a University or from a non-commercial account, check what policies are in place about putting up your own Home Pages. If you are unable to put up your own Home Page and are still interested in learning about the processes behind it, check with the System Administrator to see whether you can help with any Web-related projects they may be doing.

It is always a good idea to check with the ISP's System Administrator or with somebody who has already put up a Home Page on the system you use about any procedures or people to notify about activating your Home Page Web site. In many cases, a "switch" has to be thrown or a directory structure has to be created to enable people outside of your ISP to access your Home Page.

If you have permission to upload Web pages to your ISP, knowing a few basic Unix commands is handy. If you have to make a directory to store your Web pages, do so by typing mkdir followed by the name of the directory. The basic command to tell a Unix system that you want to upload files to it is rz, which stands for "receive Zmodem." Prepare the files you want to upload to the ISP beforehand in your communications program, type rz * at the prompt, and the ISP will receive all the files you send it via the Zmodem transfer protocol.

Finally, if you work in the DOS/Windows world, the filename extensions to all of your Web pages you upload are limited to three letters. There are some browsers which have problems dealing with Web pages that do not end in .html, so use the mv (move) command to change the filename extensions of your files. The Unix command operates much the same way as its DOS equivalent, so by typing mv sample.htm sample.html you can change each filename's extension to .html. While things may differ between different ISPs, chances are these are the only commands you will need to know to upload and configure your Web files to your ISP.

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What Is HTML?

All Home Pages are created using HyperText Markup Language (HTML). HTML uses a set of "tags" to describes how text, pictures and other elements are arranged on a page. These tags indicate where text should appear in bold, where a paragraph break occurs, hypertext links to other pages and much more.

Though it may not look like it after having looked at a particularly inventive Home Page, HTML is very limited in its abilities to manipulate how things appear on your computer screen. HTML should not be confused with tags common in many desktop publishing programs. Desktop publishing programs often use tags to determine the layout of text and graphics on a page. Tags in HTML instead determine the appearance, but not necessarily the placement, of text and graphics when interpreted by a Web browser. HTML determines the structure of a document, not its layout. This structure provides the flexibility to construct and view Web pages so that they will appear the same across a variety of different browsers working under different operating systems. This trade-off means that while just about anybody will be able to view your Web pages, you will not be able to produce the type of text or graphic layout anything like the printed pages you are reading now.

If you take a look at the HTML code behind any Web page you will see the many different tags that define the structure of the page. One of the best ways of learning how to use HTML tags is to find Home Pages you like and then get a copy of the code to examine. In many Web browsers there is a function that lets you download the contents of the Web page you are currently viewing and/or displays the source code. Reading and comparing the HTML code to what you see in your Web browser is probably one of the best ways to start learning how HTML works.

You can use any basic text editor to write HTML. As of yet there are few WYSIWYG (What You See Is What You Get) editors available, though firms like Microsoft and WordPerfect are working on add-on HTML editors within their respective word processing programs. There are many good shareware HTML editors available that will help you compose your Web pages, and new editors appear on a weekly basis.

Check out http //www yahoo com/Computers/World Wide Web/HTML_Editors/ for an up-to-date list of HTML Editors that will run on your operating system.

Many of these editors will help you compose your Web pages, but many Web gurus suggest that beginners start out with a basic text editor so you can get a better feel of how each tag works. It will be more laborious in the beginning, but it will pay off with a better understanding of how HTML is used.

Weaving A Web With HTML

There are several different types of HTML tags. There are structural tags that define a page as being a Web page. There are tags that define how text appears on a page, tags that define where pictures are located, and others that define hypertext links to other pages or files. There are also tags that introduce line breaks, that produce ordered or unordered lists and that you can create forms with. This article will only give you the basics of what you can do and makes no claim to being comprehensive.

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Many HTML tags work by marking where a certain function begins and where it should end. The <HTML> tag defines a document as being a Web page and should be placed at the top and bottom of every Web page you write. The initial <HTML> tag defines where the HTML page starts, and the end tag </HTML> tells the Web browser where it ends. The forward slash that appears in </HTML> is common to many of the HTML tags you will use, and tells the Web browser viewing the document that the function belonging to that tag ends.

There are two other main tags that should be used at the beginning and end of all Web documents. The <TITLE> tag places the name of your document on the title-bar of the Web browser viewing the page. The <BODY> tag tells the browser when to begin showing information contained on a page — you will notice in the example that you do not see the <HTML> or <TITLE> appear in the page when viewed through the Web browser.

Text and graphics appear after the <BODY> tag. There are several tags that alter the way text appears on the screen. Use a set of header tags to create a header for your Web page. Headers come in six sizes, with <H1> </H1> being the biggest to <H6> </H6> as the smallest. There are also a series of tags that modify text as it appears on screen. There are several of these, but the two most often used are the bold (<B> </B>) and italics (<I> </I>) tags.

One rule you should be aware of in any tag requiring a beginning and end tag is that you cannot jumble the order in which tags are used. They must be "nested," that is, each tag must fit inside the other so that <B><I>text</I></B> is correct form, but <B><I>text</B></I> is not.

Good use of space makes any page much more readable and inviting to the eye. There are a few tags that allow you to do this. The paragraph tag <P> puts a full space between paragraphs and the <BR> inserts a break at the end of a line. The <HR> tag inserts a horizontal rule on a line, making a visual break between sections on a page.

You may also want to insert lists of items on your Web page. There are two types of lists you can make in HTML: ordered lists and unordered lists. Surround an ordered list with the <OL> ... </OL> tags, and an unordered list with the <UL> ... </UL> tags. Each element in the list is prefaced by a <LI> tag, which is transformed into a bullet character in unordered lists, and a number in an ordered list.

So Where's the Multimedia?

Text on a Web page is great, but the World Wide Web is defined by the multimedia elements it contains. There are several tags that are used to insert images, embed files and make hypertext links to other Web pages.

Insert an image file in your Web page by using the image source tag, and then cite the name of the image file you want to use. A typical example would go something like this: <IMG SRC="keith.gif">. Your image file must be located on the server, and the file name you specify in quotes is case-sensitive, so if your file is called "stuff.gif" but you reference "STUFF.GIF", no image will appear when your file is seen through a Web browser. You can reference GIF, JPG, XBM or PICT image file formats with the image source tag.

Create hypertext links using the hypertext reference tag. Used in conjunction with the anchor tag (which fixes the link in place), simply specify the address of the file you want to make a link to. This pair of tags typically surround text contained within a sentence. When viewed through a Web browser, the hypertext link will stand out from the rest of the page (usually by a change in the color of the font). To link to another file you've made that has already been uploaded to your ISP, simply insert the filename as in the following example: <A HREF="page 2.html">Page 2</A>. To link to a

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file elsewhere specify the full Universal Resource Location ("URL") for the file for example <A HREF="http //www tcp ca/" The Computer Paper </A>

The same combination of tags can also be used to insert sound or movie files within a Web page To insert a sound or video file (which should also be local to your system) simply specify the name of the file within the hypertext reference tag. As an example <A HREF="sound wav"> Sound </A> would create a link to the WAV file specified and <A HREF="video mpeg > Video </A> would create a link to a video file You can use AU AIFF WAV and MPEG Audio files for sound and MPEG or QuickTime MOV files for video

Getting More Information

You now have the basic tools to start creating your own Home Pages There are plenty of ways to further modify and tweak the tools that have already been explained and you can find more information about them on the Web There are plenty of Web sites that will take you through the basics of HTML Check out http //www yahoo com/ Computers/World Wide_Web/Beginner_s_Guides/ for a current list of HTML Tutorials

One thing that cannot be emphasized enough is proof read your Web pages before uploading them It is a very good idea to have your Web browser running in the background when you are creating Web pages Link it to the document you are creating and to see the changes you have just made simply click the refresh button (or equivalent) on your Web browser to see the result If you have access to more than one Web browser view your Web pages through them and notice how each browser will format (or not format) your HTML code If you do not like starting up your WinSock application every time you simply want to edit your HTML code get a copy of SlipKnot http //www interport net/slipknot/slipknot.html which does not require WinSock to be active

The World Wide Web opens up a number of possibilities for the prospective Web writer Learning HTML could improve your marketable skills as businesses that go on-line are beginning to hire people experienced in HTML But whether or not you want to improve your skills create your own on-line business or simply post information on your favorite rock band on the Web It is here to stay It is easy to learn the basics of HTML, so if you ve got an internet account why not try putting up your own personal bill boards on the Information SuperHighway ❑

Next Issue. Further refining your HTML code forms Netscape-isms and cgi-scripts

newsbytes

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Future Communications Systems Inc has announced VideoVu personal computer software for Microsoft Windows that can transmit live video over the Internet (or through an ordinary modem connection)

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Continued on page 106

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Pacific Coast Computer Fair	Vancouver	Oct 14/95	1,250	$45****	Pacific Coast Computer Fair	Ed Smith	[illegible] 420-3286
Executive Showcase on Object Technology	Toronto	Oct 25-27/95	1,200	Price on Request	Plesman Expositions	Sean Wainwright	(416) 497-9562
The Parents [illegible]	[illegible]	Oct 27-29/95	8,000	$1100	Corporate Events Management	Jacqueline Peake	1-800-[illegible]
Computer Fest	Winnipeg	Nov/95	First Time	$590	Abba Computer	John Lapensee	(905) 477 1931
Ontario Computer Fair	Windsor	Nov 5/95	1,500	$150*	Creighton & Associates	Jim Creighton	[illegible]-465-8288
The Parents and Kid Show	Toronto	Nov 10-12/95	23,000	$1,250	Corporate Events Management	Jacqueline Peake	(416) 869-0141
Computer Fest	Vancouver	Nov 17-19/95	10,000	$790	Abba Computer	John Lapensee	[illegible] 477 1931
[illegible] Computing [illegible] Show	[illegible]	[illegible] 1[illegible]-16/95	First Time	$1,[illegible]	Plesman Expositions	[illegible] Wainwright	[illegible]
SCIB	Montreal	Nov 22-24/95	25,000	[illegible]	ITCS	Michele Gravel	[illegible] 361-[illegible]
Computer Fest	Calgary	Nov 24-26/95	7,[illegible]	$690	Abba Computer	John Lapensee	[illegible] 477-19[illegible]
Computer Fest	Mississauga	Dec 1-3/95	n/a	$990	ShowFest Productions	Ryhan Ahmad	[illegible]
COMDEX/PacRim	Vancouver	Jan 16-18/96	25,000	$2,900	Interface Group	Leon Jacobson	(617) 449-6600
Computer Fest	[illegible]	Jan 2[illegible]/96	[illegible]	$790	Abba Computer	[illegible]	(905) 477-1937
Computer Fest	Toronto	Feb 15-18/96	[illegible]	$1,190	ShowFest Productions	Ryhan Ahmad	(416) 925-4533
Quebec City Business/Computer Show	Quebec City	Feb 28-29, Mar 1/96	8,000	$1,800	ITCS	Sylvie Drummond	1-800-361-[illegible]
Travel Technology 96	[illegible]	Mar/96	1,200	$1,590	Baxter Travel Group	Alan G. Crockford	(416) 968-7252
Computer Fest	Vancouver	Mar 15-17/96	[illegible]	$790	Abba Computer	John Lapensee	[illegible] 477 1931
Micro Expo	Montreal	Mar 21-24/96	[illegible]	$990	Abba Computer	Claude Thibault	(514) 844-[illegible]
PC EXPO	Montreal	Apr/96	[illegible]	$975	ITCS	Michele Gravel	1-800-361-[illegible]
Computer Fest	[illegible]	Apr/96	First Time	$590	Abba Computer	John Lapensee	[illegible] 477 1931
NetCon Caravan '96	Montreal	Apr 5/96	1,[illegible]	$2,200	Plesman Expositions	Sean Wainwright	(416) 497-9562
NetCon Caravan '96	Ottawa	Apr 11/96	1,200	$2,200	Plesman Expositions	Sean Wainwright	(416) 497-[illegible]
Winnipeg Computer [illegible] '96	[illegible]	Apr 12-13/96	9,000	$585	Peel Realty Inc	Brent Aubertin	(604) 847-9786
NetCon Caravan '96	Calgary	Apr 16/96	1,200	$2,200	Plesman Expositions	Sean Wainwright	(416) 497-9562
Computer Fest	Mississauga	Apr 18-21/96	21,[illegible]	$990	ShowFest Productions	Ryhan Ahmad	(416) 925-4533
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Regina Computer Expo '96	Regina	TBA	First Time	$425	[illegible]	Brent Aubertin	[illegible] 847-[illegible]

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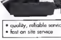

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CORPORATE PROFILE

AST Canada Gets Back to Business

BY GEOF WHEELWRIGHT

1994 was a good year for AST Canada. By year's end, the company was able to boast some impressive market share growth figures and unveil a new "back to business" strategy that will see the company focus on releasing "premium feature" products

And it's the job of AST Canada general manager Anthony DeCristofaro to make sure this strategy succeeds. He says that AST Canada claimed an astronomical 700 per cent growth rate over the past 24 months and claimed worldwide revenues for the company last year of $2.367 billion.

In order to grow further, AST is now espousing a "back to business" strategy with a focus on producing systems that include more features and offer better performance and greater storage capacity than those on offer from the likes of Compaq and IBM, yet sell for slightly less than the brand leaders.

As a major part of that push, the company expects that by this month it will see some 60 per cent of its revenue coming from sales of Intel Pentium based PC systems. "In the summer and fall, revenue (from AST's Pentium business) should start growing dramatically and we should see a major shift to Pentium," predicts DeCristofaro. "We will become one of the key leaders in the Pentium business."

In the notebook computer arena, AST portable computer division spokesperson Bret A. Berg reveals that Canada is already the company's strongest market. He said that in terms of notebook computer market share, AST Canada is number three and that position represents the highest market share AST has on notebook sales anywhere in the world.

In the US, for example, the company ranks as the fifth largest seller of notebook systems and worldwide the company comes in at the number six position.

In an attempt to further improve that market share, the company earlier this year announced two new notebook products — the Ascentia 810N and the 910N. The former is a Cyrix 486 DX2/66 MHz color notebook with a 10.4-inch DSTN backlit LCD display. It also includes support for up to a 510 Mb hard drive and is designed to allow the floppy drive to be removed when needed and replaced with a second battery for longer continuous use.

The Ascentia 910, meanwhile, features either a 486DX2 50 Mhz or 75 MHz processor, a 10.4 inch color TFT, up to a 700 Mb hard disk, uses lithium ion battery technology (and claims a battery life of between 6 to 10 hours) battery, supports Windows 95 Plug and Play standards and weighs less than six pounds.

According to Anthony DeCristofaro, these are just the first in a range of notebook computer announcements the company is making in 1995, although he emphasizes that no one should expect to see subnotebooks from AST soon.

"That market is still not a legitimate category in terms of volume and standardization," he says. "We are aggresively looking at that by fall of this year. It's a matter of what the customer will accept. There is a glut of subnotebook systems at the moment and we know manufacturers who are just dumping product. They didn't cater to the customer and didn't listen to the customer."

DeCristofaro does say, however, that you can expect to see Pentium based notebooks — as well as those equipped with multimedia features — later in 1995 from AST.

Finally, the company also announced new small footprint Bravo systems in both desktop and mini tower form factors. These include the new Bravo MS L low profile desktop and the Bravo MS T mini tower (which use either a 66 Mhz DX2 processor or a 90 Mhz Pentium processor).

On the desktop front, however, DeCristofaro warns that companies like AST are beginning to feel a squeeze from the costs of supporting their products. He worried that the move last year to a three year warranty by many PC manufacturers (including AST) allows many software companies to escape the free support demand.

He says while hardware warranties are now set at three years, software warranties have now shifted to a 30 to 90 day free warranty with fee based support after that. "The challenge lies in the fact that we are, in essence, supporting software problems," he says.

DeCristofaro admits that it is hard for most consumers to know where they should turn when they have a problem and that it is not surprising that they turn to free support first.

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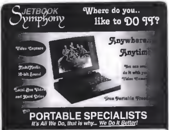
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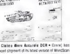
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Caere Claims More Accurate OCR • Caere) has announced shipment of its latest version of WordScan Plus its optical character recognition (OCR). Along with a number of new enhancements version 4.0 has a new OCR engine called Predictive Optical Word Recognition (POWR) which increases accuracy an average of 40 percent claims the company.

Paul Allen Backed Computer TV Network Debuts • C/NET The Computer Network debuted its first program c/net central, on cable's USA Network and The SciFi Channel. Through his Vulcan Ventures company Paul Allen co founder of Microsoft holds two seats on c/net's board of directors.

Kevin Wendle president of c/net told Newsbytes "It is our intention to target a wide audience of experienced computer users and potential computer users who have little or no experience with this technology." Wendle is credited with the development of The Simpsons America's Most Wanted In Living Color 21 Jump Street, Cops Fresh Prince of Bel Air Married With Children and other television shows.

Along with the television network, c/net is developing a complimentary online service c/net online, which will open as a Web site this June.

Simon & Schuster To Develop Virtual Reality Software • Simon & Schuster Interactive the multimedia consumer publishing division of publishing powerhouse Simon & Schuster and Virtus Corporation a developer of virtual reality software for desktop computers, have announced a multi-year agreement to develop CD-ROM products for the consumer software markets. ➤

AST Canada Gets Back to Biz

Continued from page **105**

"Ultimately your name is on the box and you will get the calls " he says. "It is a delicate situation right now. We are supporting customers who cannot functionally use a PC and we will dispatch someone to fix a hardware problem but 70 per cent of the calls are software-related."

He suggests that the current situation cannot continue for long. "But it's a question of who will make the first move because right now we are absorbing all the costs," DeCristofaro says. "Over the next year we are likely to see changes."

For AST, the impact started to be felt in January, as all the people who bought PCs at Christmas started unpacking them and figuring out how to use them. He says the calls came in by the hundreds of thousands with issues ranging from the confusion of one buyer who mistook the bundled "mouse" controller for a sewing machine style footpedal to many more who ran into software problems.

In response AST has just added 45 new people to its telephone support operations in Texas and expects that it will continue having to expand those numbers in the near future. He says one misconception many hardware manufacturers seem to have is that the PC market is now just a "commodity" market and that PCs can be sold like boxes of cereal.

"As much as we call this a commodity market, there is no way you can tell me that anyone spends more than $2 000 on a product that it is just a commodity " he says. "It is a major purchase for any home — larger than the amount you would spend for a fridge or stove — and probably third most expensive after the house and the car. If somebody invests $2,000 to $3 000 on a product, they want to know they are going to be able to use it." ❑

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Keyboard for Kids from KidBoard Inc

VirtusCube will be the first title the companies will co-publish. It is described as a floating three-dimensional organizer and screen saver that enables users to "transform their computer desktops into more functional and entertaining spaces." Virtus said. Users can drag-and-drop to customize each face of the cube with active calendars, family photos, personalized address books, and more. The basic cube will ship with more than a dozen components, with additional modules shipped as add-on products. Virtus said VirtusCube will be available in September 1995.

Keyboard For Kids • KidBoard Inc. offers what it calls "training wheels" for young users — a standard PC keyboard with several design features suited to kids. Jim Triggs and Dave Dorn had the idea in 1993 to build a keyboard for kids that would be both educational and rugged. According to Triggs and Dorn, Kidboard differs significantly from standard keyboards in that it is kidproof. The plastic housing interlocks and has a steel plate. Both of these factors ensure frame rigidity from small pounding fists. The keys are color-coded for left and right hands and also have icons. Dorn's daughter's kindergarten teacher assisted with the icon design and research. Contact: Kidboard 612-826-7385.

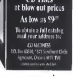
Artisoft LANtastic Power Suite • Artisoft Inc. has announced the LANtastic Power Suite, a new integrated product that combines the company's LANtastic network operating system with mail, group scheduler, information management, Data/fax and communications software.

Computers In Your Medicine Cabinet? • When it comes to the average consumer and technology, access to online health care services from home will be the most significant healthcare-related computer development, according to a survey conducted by the Healthcare Information and Management Systems Society (HIMSS) and Hewlett Packard Co.

For The Unwary, The New Millennium Could Bring Headaches • As the end of the millennium approaches, many computer aficionados are predicting catalysmic destruction (or at least a lot of headaches). According to Brian Hayes in "Waiting for 01-01-00," computers that have been programmed to track years with two digits, rather than four, will be perplexed when 1999 becomes 2000. (American Scientist, Jan./Feb. 1995, pp. 12-15)

Radius Rolls Out "Mac Clone" • In a press conference at Seybold Boston, Radius rolled out the Radius System 100, a color workstation for graphics and multimedia professionals that is based on the PowerPC 601 microprocessor and billed by Radius as the first "significant" Mac OS (operating system) based computer to be manufactured and sold under license from Apple Computer.

Continued on page 109



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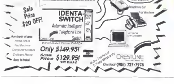

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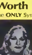

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NOTEBOOK Wanted 386 486 for student. Call 416-251-8761

OLD And unwanted computers removed free of charge and will pay for boards. Call Kaly 663-2728

OLD Computers needed for community work. Call 408-0812.

USED Power PC or RISC computer. Good offer. 297 7798.

WANTED Manual for Centronics PagePrinter 8. Ty 905-831-0640.

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WANTED Used or spare hard disk for IBM Thinkpad 700 or 720. Any capacity. Paul at 519-838-4189 or e-mail hal@uoguelph.ca

newsbytes...

Continued from page ***107***

Netscape Internet Commerce Applications • Netscape Communications announced a family of applications designed to facilitate commerce on the Internet. The company also announced two new software server products for the Internet with Netscape News Server and Netscape Proxy Server.

Ad Lib Offers Spatializer 3-D Stereo • PC sound board maker Ad Lib MultiMedia is incorporating Spatializer 3-D stereo technology in a new line of computer audio products. Ad Lib has obtained a license to use Spatializer IC technology in all of its new products and plans to immediately introduce it in three new sound boards.

Van Halen Hits The Internet • Supergroup Van Halen is one of the latest entertainment enterprises to make itself known on the World Wide Web, with a special site devoted to the band's new album Balance.

Quark, JVC Developing Image Editing Tools For Power Mac • Quark Inc has teamed with Victor Company of Japan (JVC) to develop QuarkXPosure, a new image editing, photo retouching and painting application. QuarkXPosure is scheduled to be released simultaneously in the US and Japan in the third quarter of 1995.

IBM Launches Single Chip MPEG-2 Encoder • IBM has announced what it said is the first single-chip encoder for the Motion Picture Experts Group's MPEG 2 audio and video compression standard using Intra-frame (or I frame) technology. The company also announced an MPEG 2 decoder chip.

Atari Boosts Deal With Virtuality • Atari has announced an extended contract with Virtuality, the London-based Virtual Reality (VR) software house, in which Virtuality will develop two VR games for the Atari Jaguar games console.

Microsoft Ships Bookshelf • Microsoft Corp. said it is now shipping the 1995 Windows version of its CD-ROM Based Bookshelf reference library.

Adobe, Netscape Partner On WWW Publishing • Adobe and Netscape have announced their intentions to integrate Acrobat and other Adobe products with Netscape Navigator in a series of technologies for publishing and viewing "secure" but "rich" content for the Internet's World Wide Web (WWW).

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USER GROUPS

ATTENTION USER GROUPS Send in your listing (maximum 120 characters) for the June issue by Monday May 1 1995. Submissions run for one month only in the local edition. *The Computer Paper* reserves the right not to print submissions which are deemed unsuitable

AMIGANAUTS MEETING 2nd Sun. each month 6-8 p.m. at 2875 Don Mills Rd. West, 2nd floor, Games Rm.

ANIMATORS' GROUP — For info call (416) 303-9155. For info 1-800-638-9636.

CANADIAN COMPUTER GRAPHICS ASSOCIATION — CCGA, 2175 Sheppard Ave. E. Ste 111 Willowdale ON M2J 1W8. Fax 491 1870 Tel 491 2886.

CANAM COMPUTER CLUB — Breakfast meetings every Sat. at WATTS Restaurant in Eglinton Square Mall, Scarb. For info call Bill Marcano 757 1276

CASE — Computer Aided Software Engineering. BBS 497-5263 (log in if BBS. Affiliated messages into Tech 2nd category called CASE). Call Joe Da Silva at 252-1458 or Rob Seiderman at 838-2684.

CLIPPER DEVELOPERS ASSOCIATION OF TORONTO. For info call Mike Parente 905-331-5191 ext. 447

CLUB CUBASE — meets at 7:30 pm (last Mon. of every month) at Trebas Institute 410 Dundas St. E. Call 496-9906

CLUB MAC COMPUTER GROUP OF ONTARIO — meets 2nd Tues. Michener Institute 222 St. Patrick St. Toronto, at 7 pm. Infoline 482-1702.

COMPUTER TRAINERS NETWORK — Meets 1st Thurs every month to discuss issues related to PC's & training. At the CBC Building, 25 John Street. For info call Lynn 362-0018

CYBERPUNK RESEARCH LABS — For [illegible] data write c/o CyberPunk Research Labs, Seneca College of Communication Arts, 1124 Finch Ave. West, North York ON M3J 3J5

INTERNATIONAL PROGRAMMERS GUILD meets every 2nd week at 7:00 pm on front PM at the MacCheney, 32 Wellington E. Toronto. For info or a free copy the newsletter call IPG at 905-824-7947

INTERNET USER GROUP North: 1st Tues of every month at Toronto Western Hospital. Yellow elevators to the 9th floor at 7:00pm. Call Daniel O Connell 416-301-1999 or TIUG @ CAMTWH.IRUC.ON.CA

KW-MUG — 276 Peel Street, New Hamburg, ON N0B 2G0 (519) 662-2627. Focus: Public domain distribution, reviews of current software, meetings variable, no fees.

LOGIC — Meetings 1st (Macintosh) & 3rd (Apple II) Tuesday of the month. North Toronto Memorial Community Centre, 200 Eglinton Ave. West at 7:00pm. Messages 416-323-0028. BBS 416-487-0771. FAX 905-737-0159.

METRO TORONTO ADAM GROUP (MTAG) — Users contact: (416) 424-1362 or write to: P.O. Box 165, 260 Adelaide St. E., Toronto ON, M5A 1N0. Meetings 4th Sat. of each month at the Pape Ave. Community Ctr.

MICROSOFT ACCESS AND VISUAL BASIC USERS GROUP. Meetings held 1st Thurs of every month, 6:00pm at 95 Trinity St. For more info contact Microsoft Info Ctr at 800-563-9048 or Dale Beckius at 416-363-0808.

MISSISSAUGA COMPUTER CLUB — Meets on 1st Wed. of every month at 8pm at the Burnhamthorpe Community Ctr. at 1500 Gulleden Dr. in Miss. For online info call our support BBS at (905) 270-2072 or (905) 568-2495.

NORTH AMERICAN DESKTOP — A computer users grp for PC and Apple. Bi-monthly. For info call (905) 889-5311

OTTAWA BANYAN USERS GROUP (OBUG) — Meetings held on the 1st Wed. of every month at Geological Survey of Canada, 601 Booth St., Alice Wilson Hall (ground floor). For info call Gautam Sukul at 613-738-3175.

PCCT (PERSONAL COMPUTER CLUB OF TORONTO) — meets 3rd Tues. at 5110 Yonge St. North York at 7:00 pm. Voice info line: (416) 633-4871

REPETITIVE STRAIN SUPPORT GROUP — meets the 2nd Thurs. of every month. For info call 416-493-3041 or 416-252-6471 x299.

SIG — Spreadsheet Simple Interest Group meets on third Thurs. of every month (except August) at the York Public Library, 1745 Eglinton Ave. West.

TANUG — Toronto Area Netware Users Group will next meet on May 24, 1995 at the Education and Meeting Centre at the Canadian Bar Association 20 Toronto St. 2nd floor. Call TANUG at (416) 269-0940

TAF — TORONTO ATARI FEDERATION — Meets 7:30pm, 3rd Thurs of month in North York City Centre Library building, 5110 Yonge St. at Park Home. BBS (300-14.4) 236-0018. Info-Line (416) [illegible] CALL TAF

THE CANADIAN AUTODESK MULTIMEDIA USER GRP — call Pia Zamperi at (416) 929-8156

THE CANADIAN INFORMATION PROCESSING SOCIETY — For info call Rick Ferron 518-1437

THE COMMUNICATION NETWORK Pre-registration required. Call for info at 861-8586 or 851-2884.

THE DURHAM P.C. USERS' CLUB — Meetings on 2nd Thurs. of each month at 7:10 pm (free admission). Held at CAW Local 222 Hall, 1425 Phillip Murray Ave., Oshawa. Contact Lenis Nelson 905-623-2767 or Bruce Laycraft 905-728-9351

THE ELITE GROUP OF 3-D PROGRAMMERS — For info write to L.T.P.D. on (E.G.3D P) 37 Mervyn Ave. Box #2, Toronto ON M6S 2G8

THE INTERNATIONAL INTERACTIVE COMMUNICATION SOCIETY (IICS): For info call Peter Richardson 416-288-8660 or fax 286-4886

THE TORONTO COLOUR COMPUTER GROUP — meets on the 2nd and 4th Mon of each month. For info, call Larry Osborne at (416) 972-1100

THE TORONTO GUPTA USERS GROUP (TGUG) — Meetings in Feb., Apr., June, Sept., Nov each year. Call Terry Lewis at 416-[illegible] 0528 or 416-621-6013 (fax) for info

TOPCHI (Toronto Region Computer Human Interaction) — Meets every 2nd Wed of the month at 7:30 pm. Call M. Boshes (416) 448-2867

TORONTO APL SIG — 4th Mon. of every month at 6:30 pm at BCE Place, 161 Bay Street, 10th Floor. Or write Toronto APL SIG Box 384 Adelaide Street P.O. Toronto ON, M5C 2J5. Call Ken Best (416) 862-3183.

TORONTO BORLAND USER GROUP — meets 1st (C/C++), 2nd (Paradox) and 3rd (Quattro Pro) Thurs of every month at 6 pm, 5:30 pm and 7 pm respectively. Meetings held at Borland, 5001 Yonge St. 14th Floor. Membership info call David Kirton 416-967 1069. Free BBS (905) 271-9796.

TPUG (TORONTO PET USERS GROUP INC.) — Commodore users, meets Tues (1st, 128; 2nd, Amiga; 3rd, GEOS; 4th, 64) York Public Library 1745 Eglinton Ave. W. 7:30 pm. 3rd Thurs Adlerwood United Church, 44 Delma Drive, Etobicoke 7:30 pm, software library newsletter & BBS, info (416) 253-9637

TRACE — Toronto Regional AutoCAD Exchange. Presentations on the last Tues of every 2nd month. At McBee Community Ctr, 3643 [illegible] Drive. For info call Tim Lucas (416) 751-9786.

WORDPERFECT USER SUPPORT GROUP meets the last Thurs of every 2nd month. Call (416) 729-4299 or write WPSG, P.O. Box 6800, Station A, Toronto M5W 1X4 for info.

ZIM USERS GROUP — Call Fay Rubeiff. Phone (416) 879-6268, or Fax (416) 879-4808

TORONTO DELPHI/WINTER BASE USERS GRP — Meets at the First Canadian Place, on the 1st Thurs. of every month at 2pm. For info call Robert Selwick 416-5160

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Fri, May 5, 11am-1:30pm, **Fri,** May 5, 6:30-9pm
Sat, May 6, 11am-1:30pm, **Sun,** May 7, 11am-1:30pm

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Strategies for Personal Financial Planning

Learn the strategies that will help you realize your financial goals. Whether you're paying off your mortgage or saving for your retirement or for your children's education, this seminar will show you how to increase your savings and make your money work harder. Learn about software that could help you plan your financial future. Presented by Jeffery Goodman and Rod MacLeod of THE Financial Planning Group, headed by Brian Costello.

Jeffery Goodman

Sunday, May 7, 2:30-5:00pm

How to Buy a Computer & Peripherals

Spending $1,000 or more on a computer can be nerve wracking. Learn how to intelligently shop for a computer from Jim Steinhart, a regular contributor to the *Globe and Mail*, a *Toronto Computes* columnist and a computer consultant. He will teach you how to decide what you need in a computer, how to negotiate with a dealer, how to determine software needs, which peripherals, like printers and CD-ROMS, you'll need and more.

Jim Steinhart

Sunday, May 7, 11:00am-1:30pm

How to Start a Computer Consulting Business

Ever thought of doing some consulting? Let Jim Steinhart tell you about the opportunities in multimedia, networks, programming and more. Learn how to assess your market, find clients, how to bid, how to hire, and choose the right computer tools. Jim has been a computer consultant since 1981 and writes the 'Business Advisor' column for *Toronto Computes*!

Saturday, May 6, 2:30-5:00pm

Steps to Self-Employed Success

If you want to learn the skills needed to be successfully self employed, this is the program for you! Kevin Hood, a marketing specialist with over fourteen years experience as an entrepreneur, consultant, speaker and trainer will teach you the essential skills needed to create and sustain a self-employed business. Emphasis will be on creating an innovative and effective marketing, selling and service strategy. Practical steps for every day use.

Kevin Hood

Saturday, May 6, 11am-1:30pm

Making Contact: The Art of Business Networking

The key to success is having a strong network. This interactive workshop will help you look for business opportunities wherever they occur. Learn how to set business objectives, overcome fears, positive ways to engage in conversation, develop rapport, gather information and disengage, do's and don'ts of networking. Barry Siskind is author of *Making Contact* and President of International Training and Management Company.

Barry Siskind

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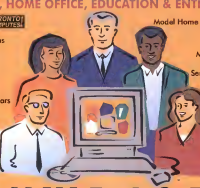

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CALENDAR

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CANADIAN INFORMATION PROCESSING SOCIETY "Network Centric Computing — Reinventing Your Business" April 26, 1995 8:00am-3:30pm Toronto Colony Hotel. For more information contact 416-593-4040.

ENGINEER AS ENTREPRENEUR. APRIL 27-29. Delta Meadowvale Conference Centre, Mississauga. For more information call 416-224-1100.

CANADIAN INFORMATION PROCESSING SOCIETY April 28 1995, 8:00am-3:30pm Toronto Colony Hotel, 89 Chestnut Street, Toronto. For more information contact 416-593-4040.

TECHNOLOGY FOR LAWYERS April 21-22, 1995 For more information contact 416-947-3418

ENGINEER AS ENTREPRENEUR. April 28-29, 1995 Delta Meadowvale Conference Centre Mississauga. For more information contact 416 224 1100

MAY

COMPUTERFEST '95 Mississauga Toronto International Centre. For more information contact 925-4533

ONTARIO COMPUTER FAIR May 7 1995 Burlington Central Arena For more information contact 1-800-465-0286

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ONTARIO COMPUTER FAIR May 28 1995 Soccer City Whitby For more information contact 1-800-465-0286

MULTI MEDIA CONFERENCE & TRADE SHOW May 31 to June 3 At the Metro Convention Centre For more information call 416-324-3233

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COREL CONFERENCE & SHOWCASE June 1-2, 1995 Ottawa. For more information contact 1-800-890-2656

JULY

COMDEX/CANADA, LAN EXPO and WINDOWS WORLD July 12-14 Toronto Metro Toronto Convention Centre 7 Skydome For more information contact: The Interface Group 617-449-6600.

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INTERNATIONAL

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MACWORLD EXPO/WASHINGTON D.C. April 26 27 1995 Washington Convention Centre Washington D.C. Contact 617 361 2001

APPLE '95/BUDAPEST April 1995 Castle of Vajdahunyad City Park, Budapest Hungary Contact 800-545 3977

COMTECH May 2-3 1995 Ottawa. Contact Connelly Exhibitions 613-731-9850

INFORMATION TECHNOLOGY WEEK '95 May 2-4 1995 San Francisco, CA Contact: Wentworth Group USA 800-828-3976.

DB/EXPO 95 May 2-4 1995 San Francisco CA A database Client/Server and information technology exposition and conference. For more info contact Lisa Moore at Wentworth NRN 415 960-0440.

PC'95 May 9-11 1995 Brisbane, Australia. Contact Information Services 301-656-2942

SIGMETRICS May 15-19, 1995 Ottawa, ON Contact ACM 212-626-0612.

VIRTUAL REALITY EXPO May 22 25 1994 San Jose CA Contact Mecklermedia 203-226-6967

COMNET PRAGUE May 22-24 1995 Palace of Culture/Convention & Cultural Centre of Prague Czech Republic Contact 800-545-3976

SUNWORLD/SAN FRANCISCO May 22 25 1995 Moscone Convention Centre North San Francisco California. Contact 800-225-4995 or 508-820-8613

PC WORLD/NETWORK WORLD/SYDNEY May 1995 Sydney Convention & Exhibition Centre Darling Harbour Sydney Australia. Contact 800-545-3976 or 508 820-8624

MACWORLD EXPO/MILAN May 1995 Spazio Milano Nord Milan Italy Contact 800-545-3976 or 508-820-8624

COMPUEDICION/MEXICO CITY May 1995 Mexico City Mexico Contact 52 5 669-4454.

INFORMATION SECURITY CONFERENCE May 22-24 1995 Hyatt Regency O'Hare Rosemont, IL Contact 516-733-6627

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COMPUTEX TAIPEI June 5-9 1995 Taipei World Trade Center Fax 886-2 725-1314

DIGITAL WORLD June 5-7 1995, Los Angeles CA Contact ZD Expos at 415-578-6900

CALIFORNIA CPA COMPUTER SHOW & CONF June 8-9 1995 Los Angeles CA Contact Flagg Management Inc at 212 286-0333

MULTIMEDIA EUROPE June 9-11 1995 London England Contact: Blenheim Online at 081 742 2828

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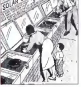

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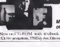

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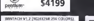

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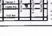

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